HMOs AND MEDICAID

Approaches to Capitation Contracting

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Health Care Financing Administration
Medicaid Bureau
330 C Street, S. W.
Washington, D.C. 20201

CLEARINGHOUSE

HMOs AND MEDICAID: Approaches to Capitation Contracting

Prepared Under Contract No. HSM 110-72-36
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I. Health Maintenance Organizations: Their Promise and Some Problems

Health maintenance organizations* have been widely recognized for their past performance -- and future promise -- in containing health care costs while assuring the availability of appropriate services. States have expressed active interest in contracting with HMOs for services to Medicaid recipients. This has been encouraged by Federal initiatives as well. The main reason is that prototype HMOs have demonstrated, over many years of operation, an ability to provide good services while holding costs in check.

Briefly, an HMO is:

- an organized health care system
- serving an enrolled population
- with comprehensive services
- for a fixed, periodic, per capita payment.

HMOs take many forms, with many variations reflecting local circumstances and the ideas of organizers and leaders. But they can generally be described in terms of how they are organized:

- prepaid group practice plans, based on the group practice of medicine, or
- individual practice associations, formed through alliances with doctors who practice independently, or
- combinations, such as those involving group practice for primary care, individual practice for specialty referrals.

Whatever the form, the purpose of an HMO is to organize the financing and delivery of health care so that it is effective, serves people well, and keeps costs under control.

HMOs are based on a series of principles about the way health care services should be delivered. While these differ in emphasis from one HMO to another, they generally include the ideas that:

- Hospital care should be limited. HMOs strive to limit hospitalization through providing comprehensive prepayment for all services -- whether performed in a hospital or not. Group practice HMOs also provide well-equipped sites for ambulatory care. All HMOs provide review and approval mechanisms, backed up by incentives. All of this aims for care to be managed, as much as possible, outside of the inpatient hospital setting.

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* The term "health maintenance organization" or "HMO" is used here in its generic sense, including not only those "qualified" by the Federal Government under the provision of PL 93-222 (the HMO Act of 1973), but also others which may provide comprehensive services and be paid on a fixed, prospective, per capita basis. However, the HMO Act amendments of 1976 (PL 94-460) restricts future contracting for HMO services for Medicaid beneficiaries to Federally-qualified HMOs (with exceptions for Community Health Centers) as discussed in Chapter V.

Hospital care, while expensive, is often used outside of HMOs because doctors are accustomed to practicing within a hospital workshop, and because most people have comprehensive prepayment for inpatient care.

- Continuity of care should be promoted. This means that medical practitioners should be organized to work together, and patients should not have to "go shopping" to find the appropriate services. It means that the way people use care should follow the logic of first consulting a primary physician, then being referred to appropriate specialists -- all of whom work together and contribute to the care or cure of the patient.

- Access to practitioners should be assured. This involves, first, the HMO's responsibility for assuring that there are enough of the right kind of professionals to serve the enrolled population. Secondly, comprehensive prepayment removes the financial barrier to seeking care.

- Preventive medicine and early detection should be encouraged. This includes efforts to use health education techniques to help people learn how to guard their health. It also means an emphasis, in medical practice, on earlier detection and -- when possible -- more conservative treatment.

- Consumers should have a choice. HMOs, as organized systems of health care, require that members or participants enroll -- and thereby restrict their prepaid access to "outside" health care providers. Patients have to be satisfied with the HMO on features of convenience and how it treats people, as well as on cost.

Do HMOs, as their name implies, maintain health? While some HMOs have made a strong commitment to the practice of preventive medicine, a realistic view is that the organization and financing of an HMO is designed to remove artificial impediments to good health care. This, in turn, can help people stay healthy, or at least not suffer from want of care. An HMO guarantees service because it assures accessibility of its participating physicians to its enrolled members. Early attention to disease can often mean better care and lower costs. Better organization, too, can deliver more rational and more effective care. The organizational attributes of the HMO mean that the goal of health maintenance can be better served.

The prototype HMOs include such plans as:

- The Kaiser Community Health Plan, currently serving over 3,000,000 people in California, Oregon, Hawaii, Colorado, and Ohio;

- The Ross-Loos Health Plan, with 145,000 members in Greater Los Angeles;

- The Group Health Cooperative of Puget Sound, serving some 210,000 members in Seattle;

- Group Health Association, in Washington, D.C., with 100,000 members;

- The Health Insurance Plan of Greater New York, with over 700,000 members.

These and other established organizations have been joined in recent years by a large number of new HMOs, mainly those established with the help of Federal grant and loan funds. As of June 1976, there was a total of 175 operational HMOs serving 6 million people. This contrasts with 33 HMOs in operation in 1970. An additional 107 HMOs were reported to be in various stages of development as of June, 1976.

The central economic principle of the HMO is minimization of expensive inpatient hospital services -- substitution, to the extent practical, of outpatient services for inpatient services, and careful control of inpatient services. This releases money necessary to provide comprehensive services. This can happen when doctors can arrange for appropriate care on an outpatient basis, and when outpatient diagnostic and treatment facilities are available. The key here is not only limitation of inpatient services. Rather, it is organization of the practice of medicine so that necessary services are, when feasible, rendered less expensively -- for example, on an outpatient basis or in a skilled nursing facility, and by appropriate professionals. Substitution, not limitation, is the valid operating principle.

Such organization of medical practice is sometimes encouraged by economic incentives. In many HMOs, a part of the compensation of physicians is tied to hospital bed-day use: the fewer the days, the more money available for incentive compensation. It would be an oversimplification, however, to explain the lesser use of hospital bed days in an HMO as being only a response by physicians to a marginal economic incentive. It is properly -- in well-run and long-lasting HMOs -- the result of a complex, generally difficult reorganization and reorientation of the practice of medicine.

Yet the recent development of HMOs has been encouraged and fueled by oversimplifications. It has been widely proclaimed, and believed, that if doctors are "at risk" and "receive the same money whether members are sick or well," they will have an "incentive" to "keep people well" (or "maintain health") and thus to economize.

Such statements are useful for making a point but can be misinterpreted. This misinterpretation leads to some of the hazards of HMO operation. Some HMO organizers may proceed on the basis that an HMO is a simple economic device, based simply on cost-cutting, or cost control, or in the belief that doctor's financial incentives can be automatically translated into better health, reduced demands for service, and reduced costs. This can lead -- as it has -- to creation of HMO-type enterprises without regard for the essential business of organizing effective new patterns for the practice of medicine.

While most HMOs are soundly-based, effective medical care systems, State Medicaid administrators have had problems with those that are not. These misconceived HMOs are generally unable to do what the "real" HMOs can do -- assure good service for a fixed cost within a health care system.

The results of system misconception or failure can be either:

- Ineffective operation - more generous services are offered and/or more generous payments are made to providers without the necessary prerequisite of changes in the delivery system. This can lead to the financial demise of the HMO, with consequent dislocation of the patients and providers who relied on its promises.

- Exploitative operation - the economic goals of the HMO are met through underservicing members, discouraging or withholding needed services, or possibly (in limited circumstances) through selective enrollment -- picking only those least likely to need or demand services.

These are not the kind of results desired from State contracts with HMOs for services to eligible Medicaid beneficiaries. Enough has been learned so that State Medicaid programs can confidently contract with HMOs. The difficulties some States have had underscore the need for a thoughtful approach in the future.

The purpose of this manual is to discuss rational rate-setting as a tool for use by State Medicaid administrators. A thoughtful approach can help assure that HMO contracts will lead to the desired results -- good service for beneficiaries and fixed budgeted costs for the public agencies involved.

II. HMO Operating Characteristics

The main differences between HMO and fee-for-service health care can be summarized as follows:

Fee-For-Service	HMO
Eligible persons	Enrolled eligible persons
Providers	Providers
- various	- single source or defined group
- not organized	- organized
No guaranteed access	Guaranteed access
Demand	Demand/management
Payment per service	Capitation rate
Bills	Statistics
No management	Managed

1. Both systems service eligible persons with similar benefits. The HMO, however, serves those who have enrolled in it. (Some individual providers may participate in both the fee-for-service and prepaid systems. HMOs, too, retain the capability of being paid fees whenever prepayment is not available.)

2. Both use health care "providers." In the HMO, these are formally organized in some way. (The general fee-for-service system may also involve organization, but it is generally less formal.)

3. In the HMO, enrollees are guaranteed access to appropriate providers; outside, each eligible person (directly or through referral) finds a practitioner who meets his needs and who is willing to serve him.

4. Both the HMO and fee-for-service systems must meet essentially the same demands for health care but the HMOs add an element of management, moderating what is done to meet demands by the application of controls, incentives, organization, and protocols.

5. The basic economic difference between an HMO and fee-for-service is the fact that the HMO is paid a fixed amount per capita, regardless of the number or kind of services rendered.

6. Both systems, nevertheless, record the services provided. In an HMO, these services are expressed through statistics; in fee-for-service, bills include the details of services provided.

It should be clear that HMOs are valid alternatives to traditional fee-for-service patterns of health care delivery. But, HMOs exist in the same world; they have to pay much the same costs and satisfy substantially the same demands. The differences in emphasis which characterize HMOs do not exempt them from economic reality.

Just as "there is no such thing as a free lunch," there is no economic magic in an HMO. If an HMO succeeds in limiting hospital expenses, it does so at the cost of providing other services. If it provides services more effectively and more economically, it does so at a cost: such as through capital investment in superior facilities, or as a result of management skill and attention.

Each HMO guarantees services for a period of time (usually a year) in exchange for a fixed per-capita payment. This means that each HMO must work on the basis of a carefully-made budget. Such a budget is made up from a series of operating assumptions, or predictions.

For newer HMOs, these predictions or assumptions are derived largely from the utilization experience of other HMOs, as applied to the unit costs and other variables particular to each situation.

For the older, or more well-established HMOs, past experience becomes a reliable guide.

The matter of how to use budgets and operating assumptions in determining payment rates to HMOs is discussed later in this manual. Meanwhile, as part of general orientation, it can be noted that:

1. Each HMO has an operating budget;

2. It includes all the elements found in fee-for-service care; but

3. The "mix" of services and costs can be substantially different between an HMO and fee-for-service care.

III. Actuarial Tools

The process of establishing rates for health care plans as well as for other forms of prepayment and insurance involves the use of some actuarial principles and approaches.

Actuaries are highly trained specialists. Membership in one of the professional actuarial societies can only be achieved by passing a difficult series of examinations. Actuaries practice according to stringent professional standards, so that their certifications can be relied upon.

An actuary's traditional disciplines can be focused on certifying and demonstrating to a State regulatory agency or other interested party that rates to be charged are reasonable and adequate; demonstrating, through cash flow analysis and otherwise, that fiscal solvency can be achieved; identifying future capital needs as to timing and amount; and offering planning advice, including exposition of the financial effects of alternative courses of action.

Nevertheless, the basic tools involved in health plan analysis are not beyond the understanding of State Medicaid staffs.

Actuarial science involves the application of mathematical and statistical analysis to past experience in order to predict future events. In general, an actuarial prediction is based on:

1. characteristics of the enrolled population, i.e., numbers by age and sex;

2. assumptions, justified by experience and illuminated by judgment, as to the number and kinds of services to be required; and

3. measures of cost which, in many circumstances, can be backed up by measures of professional time or other explicit input requirements.

The sum of these three elements (population characteristics, expected utilization, resource needs and costs) are sometimes referred to as "actuarial assumptions." They define assumptions or predictions about what will take place, who will be enrolled, how many services will be performed (and what kinds), and what the costs will be.

The end result looks very much like a budget. The identification of the assumptions, in turn, enables each one to be:

1. validated - tested against other knowledge or experience; and

2. reevaluated - tested against experience of the HMO, as this unfolds.

There should be no mystery in developing or evaluating a capitation rate for an HMO. The method is straightforward; it makes use of common-sense principles; and the results should be understandable.

Several steps are generally involved in setting -- or evaluating -- an HMO's rates. They are:

- Standardizing population and other factors;

- Establishing service utilization standards;

- Establishing costs.

1. Standardizing population and other factors. Standardization is a basic tool. If a given set of facts is to apply to another situation, it has to be standardized according to the common element. Thus, a given set of costs or utilization rates can be transferred from one population to another. A population's age and sex composition provides the most basic and predictable starting point in determining the expected level of health services utilization and costs. A basic fact is that health care needs exist -- so to speak -- "in nature"-- and these needs differ, significantly and predictably, according to age and sex. The processes of development and reproduction and degeneration and aging vary from individual to individual, but averaged over large numbers, they have a highly predictable effect on the degree of medical care demanded at various stages in life. An older group will require more service than a younger one and the extent of the difference is readily predictable.

   Each age category has a different utilization rate. For example, people in the age group 45-64 can generally be expected to use about twice as much hospitalization as those aged 15-24. It is fairly certain, statistically, that 70-year old men will use over twice as many physician services as 20-year old men. Rates of utilization also vary by sex (most noticeably, sex-related variations are due to childbearing). The absolute numbers may vary -- but the relative utilization is likely to hold true in a wide variety of circumstances.

   The general accessibility of health services may be greater or less -- influenced by such factors as the supply of physicians, or availability of transportation. Cultural factors may impede or encourage the use of health care services. The practice patterns of physicians may vary, so as to emphasize one kind of care or another. But through all these variables, the relationship as to use among the age categories tends to hold true.

   Thus, given reasonably constant circumstances, differences in utilization from group to group can be generally accounted for in terms of age and sex differences.

   In the case of medical assistance plans, a beneficiary's category of eligibility provides the basis for another predictable measure of relative health care utilization and cost. The age and sex differences referred to above operate with the categorically- needy AFDC (Aid for Dependent Children) and OAA (Old Age Assistance) populations. Blind and disabled populations generate their own statistics -- the facts of blindness and disability for each individual are more important in determining the need for care than generalized observations about normal populations.

   Category-based adjustments should be refined for differences between the medically- and categorically-needy. The latter group of individuals qualifies for continuous coverage. Medicaid-beneficiary status is not necessarily indicative of the need for immediate treatment of an acute condition. On the other hand, the spend-down provision of medical indigency virtually assures that the medically-needy will exhibit medical problems. In actuarial terms, this is a significant and predictable difference between the medically-needy and the categorically-needy.

   Geographic differences may also be significant. There may be marked differences

in medical practice patterns, availability of facilities, and costs between rural and urban areas, and between those which are located in more affluent versus poorer area.

Another element which may be standardized involves the extent of service offered by the HMO and the manner in which these are provided. As discussed in a later chapter, it is possible for health care organizations to provide different levels of service in terms of quality and depth. These differences can be objectified, so that the reimbursement rates can reflect them.

2. Establishing service utilization standards. While health care needs exist "in nature," what is done about them reflects management, orientation, convention, and practice. An HMO may, for example, substitute ambulatory or outpatient services directed toward prevention and maintenance, for episodic care and treatment of so-called "crisis situations." In the process, the necessity for expensive hospitalization is reduced. For any given population, therefore, an HMO will not necessarily provide the same number or mix of services as those which might be provided under a fee-for-service arrangement.

   For this reason, service utilization standards for HMOs generally are best derived from similar organizations after the process of standardization described above. In practice, an HMO will usually start out with fairly good advice from its actuary as to the levels of utilization that it can anticipate. Later, it should develop utilization statistics of its own. These can become relevant and reliable indicators -- for that HMO -- of its own likely future experience.

   This is not to say that the utilization experience of a particular HMO must be a necessary guide to what it should be paid, or that the experiences of other HMOs should be uncritically accepted. In fact, a necessary process, to be described later, is to obtain and analyze comprehensive utilization statistics, that would illuminate differences among HMOs and how they function in terms of how a new HMO might be expected to function. The capability of key personnel plays a vital role in the performance of an HMO.

3. Establishing costs. It is important to accurately assess the costs of the "market basket" of goods and services that must be paid for by the HMO.

   Approaches to this differ, depending on whether the HMO is a prepaid group practice or an independent practice association. For an IPA, the pricing process mainly involves external costs, i.e., what level of fees to pay physicians, what fees other professionals (like dentists, physical therapists, and other health professionals) will require.

   For a prepaid group practice, costs are approached in terms of the operating budget. The rates of a prepaid group practice plan require attention to salaries of physicians, nurses, and other technicians. It also involves the costs of rent, equipment amortization, insurance, and the many items that go into maintaining an operational medical group.

If these three elements are carefully researched and presented, the HMO's management and the State Medicaid agency should both be able to observe the HMO's progress toward meeting its projections.

IV. Accountability

Contracting with HMOs raises special problems of accountability. In administering a fee-for-service program, as well as an HMO contracting program, the State agency must assure that each dollar will be shown to have been correctly spent.

In fee-for-service care, such accountability involves more traditional management and record-keeping, i.e., demonstrating that in each case:

- a service was rendered;
- recognized (licensed) providers performed the service;
- the appropriate or approved amount was paid; and
- the transaction was properly recorded.

In HMO contracting, this accountability extends somewhat further. It involves building an assurance at the administrative level that the overall amount paid for all services rendered by the HMO is reasonable. This stems from a common observation that some HMOs might seek short-term economic gain by skimping on services. Beyond this simple caution is the fact that an HMO is an organization for the management of health care. It is possible for this management to be abusive -- using underservicing for cost savings in much the same way as so-called "Medicaid mills" use overservicing to generate excessive billings.

Some early efforts to promote capitation contracting might be charitably characterized as having been overenthusiastic on the part of the public authorities involved. Entrepreneurs attracted by the concept have viewed such contracts as a sure route to riches: all that was necessary was to control (i.e. limit) utilization and pocket a share of the savings. What got ignored in the process was the difference between an alternative health care delivery system (a real HMO) and a simple cost-cutting scheme.

A real HMO, one that lasts and can stand the test of long-term public acceptance, must deliver essentially all services that it has contracted to deliver so that its subscribers are satisfied. There is latitude or discretion in how these services are arranged and paid for, but the HMO is viewed as being responsible for seeing that all needed services are performed in some acceptable way. By contrast, a cost-cutting scheme is just that: the imposition of artificial or unbalanced limits without real attention to alternative organization and to management.

The outcome of this initial, overenthusiastic approach (principally in California) was a series of contracts with organizations that were (as viewed in retrospect) simply not prepared to function in the same way as the prototype HMOs. This resulted in some inadequate service to beneficiaries, allegations of overpayment to the health plans, and significant issues of accountability for the public administrators involved.

Organizations were hastily created that had some HMO attributes. But they copied the successful HMO prototypes only or mainly in their arrangements for capitation payment of providers.

For example, organizations were formed, essentially as intermediaries between the State and medical providers, which engaged solely in arranging capitation-payment

subcontracts: the business went to the lowest bidder who received a monthly amount for each person on his list. For each of these eligible beneficiaries, the subcontractor was responsible for providing all of the covered services in his area: dentistry, pharmacy services, radiology, or other services. Those plans that had bid low and had the contracts found they had every incentive to keep utilization low, and to provide the services (for those who did show up) as quickly and cheaply as possible. The providers involved were not, in any real sense, part of the same organization; there was no mutual responsibility for cooperation in providing good service. Each contractor, instead, was on his own in an arrangement emphasizing money motivations.

Another type of organization involved in early unsuccessful capitation attempts was a simple conversion of small primary care group practices with heavy Medicaid concentration to capitation contracting. The owners of the practice would be convinced, often by itinerant "consultants" (whose main expertise was in arranging State contracts) that capitation contracting would be beneficial in improving receivables, cutting down paperwork, and expanding the practice. Without any real preparation for their new roles, physician groups became saddled with the financial responsibility for hospitalization, and for referral and other services. They also became responsible for enrolling people in the newly-formed "health plans."

Hastily organized "marketing" efforts did what could be expected in selling something that involved few objective distinctions from fee-for-service practice. The health plan salesmen emphasized superficial attributes; they claimed advantages that didn't exist. "Gimmicks" were widely used by salesmen whose compensation depended on how many people they could enroll.

The result was the creation of a less-than-enviable reputation for prepaid contracting, and considerable trouble and dislocation.

It was recognized, however, that despite these failures, prepaid capitation contracting was still a good idea. To give a good idea a chance, the results of early experience have included:

- Considerable thought and reflection on the appropriate and effective use of prepaid capitation contracting in Medicaid programs;

- Regulations and procedures developed by some States (notably California) which had early and significant involvement in Medicaid capitation contracting;

- A comprehensive and detailed set of regulations on prepaid capitation contracting, published in the Federal Register of May 9, 1975, and discussed in the following chapter;

- A rule, part of the HMO Act Amendments of 1976 (signed by the President on October 9, 1976) to the effect that Medicaid HMO contracting on a risk basis shall, with certain exceptions, be limited to Federally-qualified health maintenance organizations. These "qualified" HMOs are those which have been found to be entitled to Federal financial support, and to certain marketing advantages under Federal law.

The latter limitation effectively removes many of the questions and pitfalls in HMO capitation contracting because "qualified" HMOs are those which have passed very demanding tests of organizational and fiscal soundness.

Questions about the kinds of organizations eligible for Medicaid capitation contracting have been effectively removed by the 1976 law.

But wide latitude and discretion still remain in the nature of the arrangements and how to determine the amount to be paid. How to deal with these issues creatively and effectively, is the subject of the further chapters in this manual.

V. Regulations

The first requirement in dealing with HMOs is the latest one -- that capitation contracting on a risk basis be confined to Federally-qualified HMOs. This is required by the 1976 Amendments to the Health Maintenance Organization Act. It is also required that a Medicaid-contracting HMO may not have more than 50% of its membership from the Medicare and Medicaid programs. While regulations under this law had not been issued as of April, 1977, the effect is clear: the number of potential risk-basis capitation contractors has been substantially limited.

Federally-qualified HMOs must pass rigorous analyses of their rates, the services provided, and financial feasibility. By requiring that only qualified plans (except for those specifically exempted from the requirement)* be eligible to sign risk-bearing contracts, it is hoped that Medicaid eligibles will be served by HMOs which can demonstrate their effectiveness, not by organizations which achieve low cost at the expense of needed services.

On May 9, 1975, regulations governing prepaid capitation contracts (45 CFR Sec. 249.82) appeared in the Federal Register (40 FR 20516 et seq.). These regulations apply to contracts between Medicaid State agencies and HMOs, health care project grant centers, and other providers that are reimbursed on a prepaid capitation basis. They find their legislative basis in Section 1102.49 Stat. 647;42 USC 1302.

The regulations concern a wide variety of topics, including contracts, audits, record-keeping, enrollment procedures, and quality assurance. They also concern the basis for payments by the State to the HMO.

Section 249.82 (c) (2) of the regulations deals with State plan requirements for contracts with organizations which assume an underwriting risk.

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* Several exceptions to this requirement are allowed by the law. First, any HMO which has received a grant of $100,000 or more in fiscal year 1976, and a like amount for subsequent periods, under Sections 330 (d) (1) or 319 (d) (1) (a) of the Public Health Services Act (Community Health Services grantees and Migrant Workers Health Service grantees) is eligible to make a risk-bearing contract. Also, grantees of $100,000 or more annually under the Appalachian Regional Development Act are exempt from the qualification requirement. The requirement is also suspended for organizations having contracted to provide services (but not including inpatient hospital services) to Medicaid eligibles on a prepaid risk basis prior to 1970. One further possible exception to the qualification requirement applies to an HMO that the State deems to be "provisionally qualified." The individual State has the power, when the HMO with which it is seeking to contract has submitted an application for Federal qualification and received no determination within 90 days, to consider the HMO to be provisionally qualified. In such a case, however, the provisional qualification extends only until such time as a Federal determination is made.

Subsection 249.82 (c) (2) (i) states that the premium charged by these organizations must be reasonable and may not exceed the upper limits set in 45 CFR Sec. 250.30.

Section 250.30 deals with reasonable charges for Medicaid services. Paragraph (b) (4) discusses the upper limit for reimbursement of prepaid capitation arrangements, and states:

> "The upper limit for payment for services provided on a prepaid capitation basis shall be established by ascertaining what other third parties are paying for comparable services under comparable circumstances. The cost for providing a given scope of services to a given number of individuals under a capitation arrangement shall not exceed the cost of providing the same services while paying for them under the requirements imposed for specific provider services."

The first sentence means that a given set of medical services offered by a health insuring organization on a prepaid capitation arrangement cannot exceed the amount that similar organizations would charge for a comparable non-Medicaid group receiving comparable services. The phrase "comparable circumstances" means that the upper limit of the prepaid capitation cost would be the cost to the State plan to provide the comparable scope of service on a fee-for-service basis to Medicaid recipients who had the same following characteristics as the group enrolled with the prepaid contractor:

- Medicaid aid category;
- Geographic area,
- Age distribution
- Sex distribution.

(Comparable geographic areas should, to the extent feasible, be small enough to eliminate the cost differences that exist in different geographic areas.)

The regulations regarding risk-bearing contracts refer to the "scope of services" rather than to any one benefit or selected group of benefits. While the HMO cost for any particular service (i.e. hospital inpatient charges) or services can exceed the per capita cost to the State under the fee-for-service system, the aggregate per capita cost for providing all benefits may not.

The criteria listed above: aid category, geographic area, age/sex distribution, have significant impact on utilization of services and on per capita cost. Adjusting for age and sex factors minimizes the effect of variation in use of services that is due to the fact that the age and sex distribution of one group is substantially different from the distribution of the other. By adjusting for these factors, a more accurate prediction of the cost of providing services for a population can be achieved. Should utilization between an enrolled and non-enrolled population differ markedly, an indication is given that a difference exists in the manner in which services are provided.

Similarly, the geographic factor is adjusted for by getting fee-for-service (FFS) maximum data on the basis of the most comparable geographic unit. Urban and rural patterns of practice often vary, as do costs of providing services; imposing one standard on the other will probably cause distortion.

Using a fee-for-service maximum established for one aid category on a prepaid group enrolling in another aid category is also inapplicable. The morbidity of people in different aid categories obviously is different. The particular services needed and the extent to which they are needed will differ. A population covered by Aid to the Disabled (AD) may experience a greater utilization of inpatient hospital services than its age/sex composition alone would indicate. It may share with the Aid to the Blind (AB) category a greater need for occupational therapy than is required for an Old Age Assistance (OAA) population. Thus a fee-for-service maximum established for one aid category which has its own particular need of specific services may very well not apply to the mix of services required by another aid category.

In addition to establishing reimbursement limits, the May 9 regulations provide that generally -- with respect to prepaid capitation contracts entered into after August 9, 1975 (the effective date of the May 9 regulations) -- premiums or subscription charges will be set for a specific period of time. However, Section 249.82 (c) (2) (ii) adds that the premium charge may be renegotiated more frequently for individuals who were not enrolled during the renegotiation. This allows for the fact that new enrollees can alter the distribution of the population and its use of services. Therefore, a group that experiences adverse selection is not bound to a rate that was established before the influx of new enrollees. To compensate for a group of new enrollees whose composition substantially alters the characteristics of the enrolled population at the time of the rate negotiation, a renegotiation specifically for these new enrollees is permissible. However, at the time of the next contract rate negotiation, the actuarial basis used should then reflect expected experience for all current enrollees.

Section 249.82 (c) (2) (ii) also allows an interim renegotiation of rates when changes in Federal or State law cause an alteration in the basic nature of the actuarial assumptions on which rates were based. For example, changes in eligibility requirements or benefits offered are sufficient grounds for renegotiation.

Section 249.82 (c) (2) (iii) states that premiums cannot include recoupment of prior losses by the contracting organization. This provision is designed to maintain the concept of underwriting risk. If an HMO is permitted to include the losses of a previous period in its cost of providing services in the period under negotiation, the net result is a cost-settled contract. While the guidelines recognize that adverse experience should not be ignored in the rate-setting process, it must still be examined in the light of the experience of other contractors. The intent of this section is to avoid rewarding an inefficient contractor with a risk-free contract.

Section 249.82 (c) (2) (iv) states that the contract must specify whether the contractor's risk is partial or full. That is, it is possible for an HMO to contract for only part of the benefit package on a risk basis. An HMO may have no experience in providing dental coverage. It may provide or arrange for that service on a cost-reimbursement basis while taking full risk for the items that are ordinarily a part of its benefit package.

The next subsection, 249.82 (c) (2) (v), states that the contract must specify how savings are to be apportioned between the prepaid program and the State agency.

The disposition of savings or losses is subject to negotiation. The State may wish to return a certain percentage of savings to the HMO as an incentive to efficient operation. The allocation of loss can be set at the same or a different percentage. For example, the State may establish a "measuring ratio" of 90 percent of the fee-for-service maximum cost. Should the HMO be able to deliver the package of benefits to its enrollees for less than 90 percent, the HMO might be allowed to keep an agreed-upon portion of the savings. If, however, a loss is incurred, this too can be allocated between the HMO and the State. In the event of a loss, in this example, the upper limit on the State's payments remains the fee-for-service maximum. A contract that specifies a set rate rather than a measuring ratio, retains that rate as the upper limit of the State's payments (unless another specific provision is made in the contract regarding the apportionment of loss).

Section 249.82 (c) (2) (vi) adds that the contract must specify whether the contractor may obtain reinsurance. States are empowered to negotiate the degree of risk they wish the HMO to bear, and as to what percentage the HMO can obtain reinsurance. The State can determine what constitutes substantial risk. Section 249.82 (c) (2) (vii) stresses that even after reinsurance, the contractor must retain a substantial portion of the risk. It is also possible for the State to act as a reinsurer. For example, the State may include in the contract that any individual incurring more than a certain amount in medical costs will automatically be disenrolled and converted to a fee-for-service patient. This closely parallels the workings of an individual stop-loss reinsurance policy. Alternatively, a State may undertake to act as a reinsurer for its contracting HMOs. It could set aside part of the capitation rate in a special fund for extraordinary claims, handle the pooling function, absorb losses on a short-term basis, and ultimately settle with the HMOs on the basis of the true cost of this portion of the risk.

Section 249.82 (c) (2) (vii) provides that when a State plan contracts with a health insuring organization for reimbursement on a prepaid capitation basis, and where the organization has assumed an underwriting risk under the contract, the contract must specify the actuarial basis for computation of the premium rate or subscriber charges specified in the contract. Thus, the contract must specify the type of rate -- e.g., if it is based on (1) the average Medicaid fee-for-service costs, adjusted by aid category or (2) the health insuring organization's estimated costs (which still must be within the upper limits established in Section 250.30 (b) (4)).

An actuarial basis for rates must be detailed for the reasons above regarding variations in utilization attributable to age/sex factors, geographic factors, and aid category differences. In this process, these factors will be evaluated for their effect on the rates. Where a contract calls for a set percentage of the fee-for-service maximum (i.e. 90 percent) to be used as the capitation rate, the guidelines specify that the contract must show a breakdown of the projected enrolled population by aid category, age, sex, and geographic area, in addition to the calculation of the fee-for-service maximum cost. In the second circumstances, where the HMO's estimated costs are the basis of the rate, the validity of the assumptions used in estimating costs must be looked at closely. For example, the projection of a certain rate of use of hospital days should be presented. Cost estimates are dependent on anticipated utilization and staffing needs, which can also be examined in light of the expected enrolled population. Projected administrative costs for running a Medicaid program must also be examined. Through this method, the State is brought into compliance with Section 249.82 (c) (6) (ix) which states that the State agency must document the basis for computation of the premium rate applicable to its prepaid capitation contract. The documentation required to conform with this section is the same as that required for computation of the premium rate applicable to its prepaid capitation contract.

Section 249.82 (c) (5) (xiv) states that in contracts in which the contractor does not assume any underwriting risk, the contractor may be paid a capitation rate subject to retroactive adjustment which would provide reimbursement for each service actually delivered to eligible recipients, at the per-service rate established by the State in accordance with regulation 250.30. This differs from contractors who assume an underwriting risk where the upper limit is based upon the average cost for the scope of services. Thus no individual service in a cost-settled contract can exceed the State's per-service rate. For example, if a State allows $10 for every visit a Medicaid eligible makes to a physician in a multispecialty facility, the HMO can be reimbursed no more than $10 for a visit to its own physicians. The HMO is treated like a similar organization rendering services in the fee-for-service mode.

Section 249.82 (c) (5) (xiv) also permits the State to contract with the same HMO for both risk-bearing and non-risk bearing contracts simultaneously. An HMO may not wish to be at risk for specific benefits (i.e. dental care) that it will still undertake to provide. The HMO may also wish to have a cost-settled contract for particular aid categories, while being willing to be at risk for other aid categories. A cost-settled contract can also be agreed upon for the first year(s) of an HMO's enrollment of Medicaid eligibles, with the intention of making a risk-bearing contract when the HMO is more knowledgeable about servicing a Medicaid population.

Section 249.82 (c) (6) (ii) adds that a single State agency must determine that adequate feasibility and planning studies have been conducted to determine whether the program can enroll sufficient membership to assure the organization's fiscal viability. The State agency must be satisfied as to the ability of the contracting HMO to deliver the services it undertakes to provide. It should do so on the basis of specific written criteria. The size of the facility, the available staff, and the available equipment must be examined. The agency must also be satisfied that the HMO will create savings by discouraging inappropriate utilization and/or by offering acceptable alternative care, not by denying needed services.

In summary, Section 249.82 (c) (2) concerns State plan requirements for contracts. It requires, for arrangements with HMOs and like organizations, that the contracts will:

1. Provide that the premium or subscription charge be reasonable;

2. Provide that the payment does not exceed the amount which would be payable for the same services under the fee-for-service system, as detailed in regulation Section 250.30;

3. In general, set rates for a year at a time;

4. Not allow or provide for the recoupment of an HMO's losses, if it has assumed an underwriting risk;

5. Define the underwriting risk assumed by the HMO contractor;

6. Specify how any "savings" (excess of premiums over allowable cost) will be apportioned between the HMO and the State;

7. Specify the extent of reinsurance to be obtained by the HMO contractor and require the contractor to retain, after reinsurance, a substantial portion of the risk;

8. Specify the actuarial basis for computation of the premium rate or subscription charge specified in the contract.

Additional requirements on HMOs are expressed in Section 249.82 (c) (6). These require that:

1. The single State agency will obtain "proof of financial responsibility, including adequate protection against the risk of insolvency and proof of capability to provide the services efficiently, effectively, and economically."

2. That the single State agency will determine that adequate feasibility and planning studies have been made for the enrollment of a sufficient number of members to assure the economic viability of the organization.

A final key requirement is contained in Section 249.82 (c) (6) (ix): "That the single State agency will document the basis for computation of the premium rates or subscriber charges it negotiates with the contractor or, if these rates or charges are fixed by the single State agency without negotiation, it will document the basis for computation of these fixed rates or charges."

In short, the regulations require a degree of care in setting rates to be paid to HMOs. They further require that the rates be, so far as possible:

- reasonable;

- justified;

- defensible.

VI. Choosing the Method: Alternate Concepts of Rate Determination

The regulations are clear in recognizing several different concepts of how reimbursement to an HMO should be handled.

First, it is possible to contract with an HMO on a non-risk basis. An HMO can be paid on a fee-for-service basis, possibly with advance deposits taking the place of prepaid capitation. Settlement against the deposits would then be made on the basis of the approved Medicaid fee schedule for each of the services rendered to the eligible Medicaid group. This approach is useful in some circumstances, such as when it proves difficult to agree on a basis for prepaid capitation, but the State nevertheless desires to gain some experience in dealing with the HMO and the HMO wishes to gain experience in dealing with the State and with Medicaid beneficiaries.

Some HMOs have expressed reservations about serving Medicaid beneficiaries out of concern that they would require extraordinary services and would therefore be too expensive. No-risk contracting means that, at the price (if any) of accepting the Medicaid rates of fee-for-service payment, the HMO can gain experience, allowing development of a fact-base. The State, for its part, can gain knowledge which might inform future rate determination.

More prevalent is the establishment of a risk contract in which the HMO contracts for services at a fixed rate, paid as a monthly per-capita amount, agreed to in advance. Within the sum of money paid -- the capitation rate -- the HMO is responsible for the provision of a comprehensive range of services.

Capitation rates under such risk contracts can be determined in a number of ways. These are outlined briefly, and, then considered in more detail.

Negotiation - In some cases, Medicaid capitation rates have been said to have been "negotiated" -- arrived at solely by give and take between the parties at interest -- the HMO and the State. This may represent an oversimplification. In any event, it is inappropriate: there should be a sound basis or rationale for the maximum amount the State is able to pay and for the minimum amount the HMO can accept. With these established, it can be expected that there will be room for negotiation.

The point made is that negotiations should be informed: they should represent something more than bargaining skills, persistence in haggling, or the marshalling of power. A rational negotiation involves discussion and resolution of issues based on fact.

Fee-For-Service Maximum - The limit on the State's payment, as previously indicated, is the amount that would have been payable under fee-for-service, for the same eligible population, in the same location, in the same time period. Once that is determined, the State may wish to base payments to HMOs on this information.

Percentage of Fee-For-Service Maximum - The State can assure itself of savings, through paying a percentage -- such as 90 percent or 95 percent -- of the fee-for-service maximum.

Community Rates - Some HMOs have expressed the idea that the principle of "one rate for all" should extend to Medicaid as well as private market enrollment.* Under such an arrangement, there would be no adjustment for predicted different levels of utilization, only for different sets of benefits.

Rates Based on Community Rates - HMOs have what are termed "community rates" -- that is, rates charged to the public generally, for a stated plan of benefits. These can be modified to take account of different benefits to be provided for Medicaid

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* The Federal HMO Act (HMO Act of 1973, P.L. 93-222) requires that qualified HMOs observe the "one rate for all" principle with certain modifications and exceptions. This requirement does not apply to contracts for services to public employees or to Medicare and Medicaid beneficiaries.

eligibles, and, as appropriate, expected or predicted different levels of utilization for Medicaid-eligible persons.

Rates Based on an HMO's Budget - An HMO may seek a contract which would set rates equal to its projected operating budget. The individual elements of cost would be justified (shown to be reasonable) and the reimbursement rate would be the sum of these.

Rates Based on Generalized Budgets - Alternatively, it is possible to create generalized budgets or "cost models" for different classes or categories of HMOs. These can serve to set standards to guidelines useful to a State agency in setting rates or rate limits.

Any of the above, or any combination of these, can be used in practice. But the reasonableness of the rate depends very much on the choice of an appropriate method. There are no absolute rules in choosing which approach to use: that will depend on policy decisions of the State, the extent of development of the HMOs involved, and on what part the HMOs are expected to play in caring for the State's Medicaid eligibles.

A choice can also be influenced by a variety of additional factors -- such as (1) the ability of the HMO contractors to generate the information necessary for various types of rate computations; (2) the State's priorities, which will reflect its budgetary constraints (e.g., the fee-for-service upper limit); and (3) HMO contractor interest, receptivity, and fiscal needs.

With this background, some comments can be offered as to the conditions which might justify the use of one method or another.

A. Fee-For-Service Basis. This encompasses two approaches: (a) payment of fee-for-service maximum, or (b) payment of a percentage of that amount (such as 90 percent).

A significant advantage is that this method responds -- simply and directly -- to the main Federal regulation: one may pay up to the amount which would have been paid under fee-for-service -- no more.

Paying this maximum amount may be an appropriate way to help some HMOs get started. If the State has a policy of encouraging HMOs as a means of bringing coordinated systems of health care to the economically-underserved areas, then this approach may be used to assure maximum allowable compensation to the HMO. This can help to meet the high costs of a new HMO, the continuing high costs of an HMO which must operate under adverse economic circumstances, or the "extra" costs which can be involved in rendering special social services. This approach is also relatively simple and mechanical in its administration.

The percentage approach allows ready computation of how much is "saved" through use of HMOs. If HMOs are paid 90 percent of the fee-for-service maximum, it is apparent that 10 percent is saved.

A significant danger of this approach, however, is that it can result in overpayment or underpayment to HMOs.

Underpayment is only an issue that can be dealt with when a percentage approach is used. If an HMO is being paid the maximum allowable amount, it still may be "underpaid," but this cannot be dealt with without a change

or waiver in the Federal regulation.

Overpayment is a much more significant issue. It is possible that payment of an amount unrelated to an HMO's actual costs can result in significant overpayment. It can also engender charges that HMOs, in order to "profit" are likely to engage in selective enrollment and in service rationing.

Therefore, if a fee-for-service basis is to be used, then the State must, for practical reasons, assure itself independently that the rate paid is reasonable.

In short, this approach presents two basic problems: (1) setting the percentage ceiling at an appropriate and sufficient level, and (2) establishing evaluative techniques which provide some assurance that the program is valid and that the rate is reasonable and credible.

B. Community Rates. **A community rate is the amount of the HMO's budget divided by the expected number of HMO enrollees. A community rate, then, is a single rate applied to all classes of HMO enrollees.***

A rate based on the community rate can be adjusted to take account of: (1) differences in benefit plans applicable to one group or another, and (2) in the case of Medicare and Medicaid, the expected characteristics and utilization of the prospective enrolled beneficiaries as these differ from the characteristics which define the "regular" private-market enrollment of the HMO.

In this broad category, there are two sub-categories: (1) paying the HMO's community rate, or (2) paying a special rate based on the community rate for Medicaid enrollees.

The first of these alternatives is seldom, if ever, really appropriate. It could be used in a situation in which the HMO, for its own reasons, insisted that each member (Medicaid or otherwise) should pay the same rate, and the State independently assured itself that that rate was acceptable. In practical effect, demands for a community rate basis of payment have been encountered where the number of Medicaid beneficiaries is small, relative to the total enrollment of the HMO, and the HMO management does not want to be concerned with the complexities of a "special" Medicaid rate.

Using a community rate also establishes "reasonableness." The fact that the rate is accepted in the health benefit "market place" is clear evidence that others find the rate to be reasonable. This considerably lessens the burden on the State administrator of proving that a particular rate is proper and appropriate, and it is also easy to understand.

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* As specified in P.L. 93-222, Section 1302, (8) and the 1976 Amendments to the HMO Act, P.L. 94-460 Section 1302, (8) (A) (i), (ii), (iii), and (B). The per capita amount can be translated into premiums for singles, couples, families, and other rating structures if the per capita is consistently applied in all forms.

It will be specific to the HMO, and therefore likely to be acceptable to it. The differences between an HMO's "regular" community rate and the rate to be paid by the State Medicaid agency can be worked out on the basis of objective factors.

The community rate approach may well be the most appropriate, in many situations, but two significant cautions should be noted:

1. Such a rate is only as valid as the underlying community rate; and

2. It is possible for Medicaid enrollees to account for substantially different utilization and costs as compared to regular private-market enrollees.

These cautions point to the desirability of fact-based evaluation of the rates.

For an established HMO, there is little practical possibility that its rates could be "invalid." Such an HMO will have ample operating records to justify its rate-making process, but for a newer HMO, this is not quite so clear. It is possible for these newer HMOs to set rates which are not sufficient to cover current or future projected costs. However, the process by which the rates of HMOs are examined by the Insurance Department (or other regulatory agencies) of some States, and the scrutiny given rates and overall financial viability in the process of Federal qualification, can give assurance -- where this is applicable -- that community rates are soundly based.

The question of different utilization by Medicaid and non-Medicaid enrollees must usually be determined by the facts as they unfold in a particular situation. It is most likely that the main differences between Medicaid and non-Medicaid enrollees can be accounted for by age-sex differences between the two groups. However, this is not necessarily or universally so. For example, a Medicaid population might be the object of special outreach services, or special counseling and medical attention on matters of childbearing and abortion. A Medicaid population <u>can be</u> more demanding of services, effectively insisting on receiving more prescriptions than might be otherwise given, an extra measure of emergency outpatient care, or extra hospitalization. A Medicaid population <u>can be</u> more needful of certain services, such as dental care because of past neglect. A Medicaid population <u>can be</u> in need of certain "extra" services because of their economic and social circumstances: for example, occasionally requiring longer institutional stays because adequate assistance or warmth or nutrition is not available at home.

All of this is in addition to objective differences in the benefit package and in addition to special services (such as transportation) that may be required by Medicaid enrollees. These "extras" stand apart from the usual business of the HMO and are relatively obvious. The less obvious differences are those which maybe reflected in the general utilization statistics of the HMO.

C. Budget-Based Rates. A third approach is to base rates on projected costs, or budgets.

This includes two alternative concepts, each distinctly different:

1. basing rates on an HMO's own budget; and

2. basing rates on generalized budgets.

A third possible use of a budget -- perhaps the most important -- is as an evaluative tool to guide rate negotiations. This can be used almost universally, as will be illustrated.

The situations in which rates might be based directly on a budget-making process are discussed below.

A State may undertake to exactly match the prospective operating budget of an HMO when the HMO operates -- in effect -- as an agency of the State in serving a particular category of people in a particular area. There are situations in certain large cities and some rural areas where innovative health care delivery systems have been developed. The Neighborhood Health Centers and Family Health Centers, first financed directly by the Federal Government, are now moving toward reliance on Medicaid and other "third party" reimbursements for their services. They have previously justified their grants by submitting detailed budgets; they can now support their capitation rates in much the same way.

It should be clear that no State can be expected to be unrestrainedly open-handed in this process. Budgets must be reasonable. The amount of reimbursement must fall within the upper limit defined by fee-for-service costs. Some health centers, which in the past have had liberal budgets, may find difficulty operating within this constraint. The fee-for-service limits is not likely to be high enough in most cases to pay for extensive outreach, or for transportation services, or for the costs of training indigenous health workers. Such costs, if they are to be met at all, are likely to require funding outside of the regular flow of Medicaid capitation money.

The projected cost approach calls for cost-finding procedures which can apportion and verify program costs attributable to Medicaid enrollment. It necessitates extensive data-reporting activities to produce cost and utilization data specific to Medicaid. Without these, it is quite possible for Medicaid capitation money to be apportioned to non-Medicaid costs.

The projected cost approach does incorporate risk: the HMO must operate within the allowable budgets. Economic incentives to providers can be allowed for within the capitation rate. The program can be at risk for matching its performance expectations for efficiency, and for maintaining effective and economical treatment patterns.

Generalized budgets, or cost-modeling, is a different concept: it is focused on a category of HMOs, in terms of a typical or likely budget; not the specific budget for an individual HMO.

It is an appropriate device when:

1. There is a series of HMOs with common characteristics, enough to make a generalizable category; and/or

2. There are stable, established HMOs whose experience data can be used as valid, predictable tools; and/or

3. The State agency does not wish, in terms of technical input or in terms of strategy, to get directly involved with the details of an HMO's operating budget; and/or does not wish to deal with an implied or specific responsibility.

In effect, the cost-modeling approach involves:

1. Creating a credible model of what HMO services should cost; and

2. Offering to pay HMOs on that basis.

It should be noted that a budget-based approach calls for the availability of a good analytical staff within the single State agency: people who can devote whatever time it takes to learning the economics of HMOs. If a budget evaluation is to be credible, it must be done by someone who has the background and the time to be able to study, understand, ask questions, develop opinions, and be responsible for his work. Some States have avoided this approach because it can be difficult to find a place in an ongoing administrative structure for people whose main function is to develop their own knowledge. Actuarial consultants might be hired to help train State personnel, but the real need for maintaining a specialized knowledgeable staff remains.

It is clear, from analysis of experience so far in Medicaid capitation contracting, that a variety of methods have evolved in response to different circumstances. Observation of this experience enables a relatively more sure approach in the future -- starting with the choice of the most appropriate concept of how to set rates.

A final observation on the subject of "choosing the method" is that none of these methods can be used exclusively and none can be relied upon entirely. For example, a State may determine that it will pay an amount based on the fee-for-service maximum; but it would still have an interest in the application of the community rate basis and in budget analysis to ascertain that the rates paid are not unreasonable. A budget-based rate, similarly, must be at least tested against, or compared to, the community rate as part of the analytical process to see that the budget amount is reasonable in relation to the community rate. Or a community rate basis may be used: but the State will still have an interest in the budget to assure itself that the budget is not absurd and that the HMO is a viable entity.

In short, "choosing the method" is done in terms of emphasis, not exclusivity.

In summary, three major categories of approaches to HMO rate determination can be identified on behalf of a State:

1. Rates based on fee-for-service maximum;

2. Community rate basis;

3. Budget-based rates.

Each of these approaches has variations which can be adapted to fit particular circumstances.

Each approach will work in the appropriate circumstances with the appropriate safeguards. Choice of the right method is crucial. The major difficulties States have had thus far with Medicaid capitation contracting have not been due so much to maladministration, but rather to a lack of a sound conceptual framework for establishing or evaluating rates.

VII. Practical Steps in Rate Determination

For purposes of establishing a prepaid capitation rate, a sequence of operational steps starting from the time that contract discussions are initiated can be identified. While emphasis may vary from one situation to another, the process of determining a capitation rate involves a systemic process which includes the following steps:

1. Consider the conceptual basis as discussed in the preceding chapter. There are alternate concepts of how to approach the rate-determination task. A critical step is to consider the alternatives and to arrive at the most appropriate approach for the circumstances. A State may use different approaches in contracting with different HMOs. To have a single policy in dealing with HMOs may be orderly and readily explainable but it may not -- considering the variety of HMOs -- be right.

2. Determine the maximum amount payable. A central requirement in Federal regulations and in some States is that Medicaid HMO contractors may not be paid more than would by payable under regular fee-for-service arrangements. Thus, the first task of a State Medicaid administrator is to determine this maximum. A procedure for doing so is described in the next chapter.

3. Determine reasonableness. The State agency should assure itself that the rates to be paid to the HMO are reasonable. This involves a process of review and analysis as described in subsequent chapters.

4. Establish justification. The Federal regulations require that the State agency must document the basis for computation of the premium rate applicable to contracting HMOs. This involves reference to the preceding steps: determining the contracting basis; establishing the maximum amount payable;

5. Negotiate. While the word "negotiate" can have several connotations, the process of establishing agreement on rates does not usually or necessarily flow from application of a formula or set of fixed guidelines. It also involves discussion and resolution of issues, settling questions as to the level of reimbursement, how costs are justified, and what risks will be borne by the HMO and the State. Some of these topics are discussed in a subsequent chapter.

6. Monitor experience. The State should have a systematic means of receiving and analyzing reports from contracting HMOs. These include statistics on enrollment and utilization. The kinds of tables which can be used and the means for analyzing them are discussed in a subsequent chapter.

7. Set renewal rates. Provision must be made for updating the rates, taking into account not only adjustments in price levels, but also changes in utilization assumptions and resource needs which are indicated by experience with a specific population.

The balance of this manual is intended to be a "how to do it" explanation. However, no State is yet at a point of having developed a detailed "procedural manual." This manual is written in terms of the concepts and approaches which appear, on the basis of experience and observation, to be necessary for virtually all Medicaid capitation contracting.

VIII. Determining the Maximum Amount Payable

The actual services rendered to a known population of a specific Medicaid category during a specified period of time and for a specific geographic area are used to compute the fee-for-service (FFS) maximum. The payments are calculated on a per person/per month, service-by-service basis. These costs are then adjusted to reflect changes in unit costs anticipated for the new year. A set of completed sample tables is shown in the Appendix, in addition to the blank tables used as examples in this chapter.

Determining Past and Projected Cost Per Service - Tables VIII-A, B, and C

Table VIII-A lists the State's total cost per year for a particular geographic area for each service by aid category. The geographical entity most closely approximating the area of residence of those Medicaid eligibles which the HMO intends to enroll would determine the maximum amount payable to the HMO. All other data, except where noted, is reported on the basis of this geographic unit. Frequently, the county in which the HMO will be providing services is used as a data base. The total annual costs are divided

by the number of person-months of exposure (Table VIII-B) by category for the same year to arrive at the monthly per-person cost per service. The number of person-months is computed by adding the number of aid-category eligibles in each month of the selected year. The sum is the person-months for that category and geographic area for that year.

The per-person costs are then adjusted to reflect the anticipated effects of inflation and the effects of statutory limitations on price increases. The bases of cost adjustment factors (Table VIII-C) are the Medical Care Components of the Consumer Price Index, and those statutory limitations imposed on price increases. The cost adjustment factors are used to project the current per capita cost for the Medicaid benefit package into a specified time in the future. Since various services experience different rates of inflation (physician fees escalate more rapidly than the cost of prescription drugs) each service must be analyzed independently to determine the effects of inflation.

The cost adjustment factors are computed by deriving the anticipated future cost (which is further modified by judgment) and dividing it by current cost. In cases where statutory limits exist (i.e., five percent on increases in reimbursements to physicians), it is generally assumed that the cost will increase to the level of the ceiling. Statutory limits can also be used to decrease the cost of a service, in which case the cost adjustment factor will reflect the drop. The factor is determined for each service separately. Breaking down costs by service category also makes it easier to compare the State's benefit package with that of the HMO.

In some instances, primarily for the purposes of cost control, States may decide not to raise reimbursements to fee-for-service providers from one year to the next. In these cases, the adjustment factor would be 1.000. Although HMOs must provide services at their cost (not having the State's power to set limits on payments to providers), the upper limit on capitated rates remains the fee-for-service maximum. This requirement remains in force even if the State has not recognized cost inflation in its fee-for-service reimbursement levels.

Table VIII-A

Average Cost Per Eligible Per Month

Geographic Area: _____

Aid Category: _____

For Services Rendered: _____ to _____

	(1) Categorically Needy	(2) Categorically Needy	(3) Medically Needy	(4) Medically Needy
	Total $	Monthly Per Person Cost*	Total $	Monthly Per Person Cost*
Inpatient Hospital Services	$	$	$	$
Physician Services				
Hospital Outpatient Services				
Laboratory and X-Ray Diagnostic Services				
Other (List)				
Subtotal (Minimum HMO Benefit Package)	$	$	$	$
Long-term Hospital				
Prescription Drugs				
Nursing Home				
Other (List)				
Subtotal	$	$	$	$
Total	$	$	$	$

* Total dollars divided by total person-months of exposure, _____ (categorically needy), and _____ (medically needy) for period in question. See Table VIII-B for method to compute person-months of exposure.

Table VIII-B

Person-Months of Exposure

Geographic Area: _____

Aid Category: _____

from _____ to _____

	Categorically Needy	Medically Needy	Total Needy
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			
Total Person-Months			

Note: The person-months of exposure for a given time period is the sum of the number of Medicaid eligibles in each of the months in that time period.

Table VIII-C

Adjustment in Average Monthly Per Capita Cost
Reflecting Changes in Medicaid Fee Schedule *

Geographic Area: _____

Aid Category: _____ Payment Class: _____

For services to be rendered from _____ to _____

	Past Monthly Per Person Cost			Projected Monthly Per Person Cost	
	Categorically Needy	Medically Needy	Adjustment Factor	Categorically Needy	Medically Needy
Inpatient Hospital	$	$	$	$	$
Physician Services					
Hospital Outpatient					
Laboratory and X-Ray Diagnostic Services					
Other (List)					
Subtotal (Minimum HMO Package)	$	$	$	$	$
Long-Term Hospital					
Prescription Drugs					
Nursing Home					
Other (List)					
Subtotal	$	$	$	$	$
Total	$	$	$	$	$

* Subsequent to time period used in Table A.

** From Table A.

Determining the Relative Costs of Enrolled and Non-Enrolled Eligibles - Tables VIII-D, E, F, and G.

Areawide per-person, per-service cost is recorded (Table VIII-D) when available (if not obtainable, statewide figures can be substituted) and used to develop cost relationships between the various age/sex groupings. This data need not be accumulated annually because changes in utilization patterns and the relationships between amounts of utilization by age/sex groupings occur slowly. In those cases when a State does not maintain age/sex data, a special study should be made to determine this information. The per capita cost of providing the package of benefits (not individual services) for each grouping is compared to the cost of a selected "standard" grouping. Arbitrarily, males aged 10-14 may be used, but any other grouping would serve as well. The per capita cost of each grouping is divided by the "standard" cost, and an index of relative costs is thus developed. It can then be said, for example, that the cost of providing services to a woman aged 20-24 is 3.2 times higher than the cost of providing services under the same benefit package to a boy aged 10-14. This index of relative costs is used in the process of adjusting for variations in the age/sex composition of an enrolled population. These indices may be calculated separately for each aid category.

Another set of calculations adjusts the non-enrolled Medicaid eligibles to the population enrolled in a specific HMO. The primary tool used to relate the two populations in the same area is an adjustment for age and sex. This helps prevent the HMO from being unfairly penalized for enrolling more "expensive" age/sex groups, or conversely, unfairly benefited by enrolling less expensive ones. The presumption is that with the age/sex factor adjusted for, differences in cost per person between the enrolled and non-enrolled groups will more surely reflect differences in management, organization, and control techniques. Besides age and sex, other socio-economic or demographic variables influence utilization. If enough data can be accumulated to demonstrate their effects, these too may be adjusted for.

In Tables VIII-E and F, respectively, the non-enrolled and HMO-enrolled populations are analyzed by age and sex composition. Numbers of persons in each age/sex grouping are recorded and then converted to proportions of the respective total population.

These proportions, when applied to the index of relative costs of Table VIII-D, result in a final, overall "age/sex adjustment factor" (Table VIII-G). This is, in effect, a summary of the expected cost effect of differences in age/sex composition between the two populations. When this factor is applied to the cost of the package of benefits to be offered by the HMO, the differences in basic demographic composition are adjusted for. Should the State contract with more than one HMO, and the benefits offered by any HMO differ from those included in the FFS maximum calculation, a new maximum must be calculated for that package of benefits. The age/sex adjustment factor only applies to that aid category used in the calculation of the maximum.

Table VIII-D

Average Monthly Per Person Cost (Statewide)

Breakdown by Age and Sex Groups

Aid Category: _____

Benefits: _____

For Period _____ to _____

I. Dollars Per Person Per Month

Age	Categorically Needy		Medically Needy	
	Male	Female	Male	Female
< 1	$	$	$	$
1 - 4				
5 - 9				
10 - 14				
15 - 19				
20 - 24				
25 - 29				
30 - 34				
35 - 39				
40 - 44				
45 - 49				
50 - 54				
55 - 64				

II. Ratios*

< 1
1 - 4
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 64

*Male aged 10-14 equal to one; all other age/sex groups expressed as ratios of it.

Table VIII-E

Age-Sex Distribution of Non-HMO Medicaid Population

Geographic Area: _____

Aid Category: _____

As of _____

I. Actual Numbers of Persons

	Categorically Needy			Medically Needy		
Age	Male	Female	Total	Male	Female	Total
< 1						
1 - 4						
5 - 9						
10 - 14						
15 - 19						
20 - 24						
25 - 29						
30 - 34						
35 - 39						
40 - 44						
45 - 49						
50 - 54						
55 - 64						
Total						

II. Proportion

< 1						
1 - 4						
5 - 9						
10 - 14						
15 - 19						
20 - 24						
25 - 29						
30 - 34						
35 - 39						
40 - 44						
45 - 49						
50 - 54						
55 - 64						
Total			1.000			1.000

Table VIII-F

Age-Sex Distribution of Medicaid Population
Enrolled in a Specific HMO

Name of HMO: _____

Location of HMO: _____

Aid Category: _____

I. Actual Numbers of Persons

	Categorically Needy			Medically Needy		
Age	Male	Female	Total	Male	Female	Total
< 1						
1 - 4						
5 - 9						
10 - 14						
15 - 19						
20 - 24						
25 - 29						
30 - 34						
35 - 39						
40 - 44						
45 - 49						
50 - 54						
55 - 64						
Total						

II. Proportion

< 1						
1 - 4						
5 - 9						
10 - 14						
15 - 19						
20 - 24						
25 - 29						
30 - 34						
35 - 39						
40 - 44						
45 - 49						
50 - 54						
55 - 64						
Total			1.000			1.000

Table VIII-G

Determination of Age-Sex Adjustment Factor
To be Used in Determining Upper Limit for HMO Capitation Payment

Aid Category: _____

Payment Class _____ Benefits _____

Name of HMO _____

Age	(1) Relative Cost Ratio*	(2) Proportion of Persons: Medicaid Eligibles Enrolled in HMO	(3) Proportion of Persons: All Medicaid Eligibles Not Enrolled in HMOs	(4) Total Age-Sex Adjusted Ratios: (1) x (2)	(5) Total Age-Sex Adjusted Ratios: (1) x (3)
Males:					
< 1					
1 - 4					
5 - 9					
10 - 14					
15 - 19					
20 - 24					
25 - 29					
30 - 34					
35 - 39					
40 - 44					
45 - 49					
50 - 54					
55 - 64					
Females:					
< 1					
1 - 4					
5 - 9					
10 - 14					
15 - 19					
20 - 24					
25 - 29					
30 - 34					
35 - 39					
40 - 44					
45 - 49					
50 - 54					
55 - 64					
		1.000	1.000	HMO=	FFS=

Age-Sex Adjustment Factor = $\frac{\text{HMO}}{\text{FFS}}$ = _____

*These ratios are from the bottom half of Table VIII-D

The fee-for-service maximum calculations contain no line item for administrative expenses. This is due to the implicit inclusion of such expenses in the cost of providing each medical service. For example, physicians' fees include the cost of maintaining an office, ancillary personnel (nurses, receptionists), billing, filing insurance forms, in addition to the cost of the physicians' services themselves. HMOs are thus expected to provide all services required under their contracts, plus their own internal administrative costs, for no more than the State's hospital and medical costs (the fee-for-service maximum).

Some HMOs, however, feel that HMOs generally engender far greater administrative costs than fee-for-service practitioners providing comparable services. Reporting requirements are often more extensive for HMOs, which are frequently viewed as "experimental," and are in the position of explaining and legitimizing themselves. HMOs must usually purchase reinsurance coverage, in addition to malpractice (in prepaid group practice and network models) and other liability coverages. Also, some level of comcomunity and enrollee responsiveness (i.e., grievance procedures) is often required of the HMO.

To alleviate this disparity, a method of supplementing payments to the HMO (above the fee-for-service limit) may be available. If the State calculates a net saving between its own cost of administration (primarily claims processing) in the fee-for-service sector, and the cost of administration for beneficiaries enrolled in HMOs, this saving can be partially or fully given to the HMO to cover its administrative cost.

As no regulations or guidelines have as yet specified this method, it is advisable that a State wishing to make use of it consult first with appropriate Federal offices.

The most important element in the calculation of fee-for-service maxima is not the technique of computation, but the validity of the data itself. Many States have encountered difficulty in accumulating data that allows an accurate determination of costs.

The reasons for this are varied. A frequent problem has been that of maintaining records by date of payment rather than date of incurral for the Medicaid services. Keeping records on the basis of date of service may be considered unwieldy. Significant lags are experienced between the time the service is actually performed, when a bill is presented for payment, and when it is paid and finally recorded. Thus a State may not know for almost a year what its true cost picture is. However, maintaining data on a payment-year basis often causes an understatement of cost or other distortions. The cost of services rendered at various times in the past is divided by (in the FFS maximum calculation -- Tables VIII-A and B) annual person-months of a particular time. If the number of Medicaid eligibles tends to grow over time, the resulting cost per person will show as lower than was actually the case. A potential solution of this problem is a time lag analysis, where the State samples date of incurral of claims to determine the percent of bills submitted for payment within several time frames. From these, a lag factor can be developed and applied to the date of payment data. An additional survey may be made of payment data after bills are received.

Another area of potential difficulty in data gathering has been the categorization of benefit costs. Overlapping exists between certain categories. While a service such as "inpatient hospital services" is easily defined, a service like "family planning" is much harder to pin down. It is not easy to determine what portion of "family planning" services is actually rendered during physician office visits, rather than during visits to family planning clinics. This has an effect on the determination of costs for both categories. Costs are frequently recorded under very broad headings, with little or no possibility for finer detailing. This creates complications when trying to match these breakdowns with those of the HMO (which may define categories differently) for purposes

of comparison of costs. In cases where the uniform benefit package to be offered by the HMO is mandated, no real difficulty ensues when the costs are not broken down except for the difficulty in developing individual cost adjustment factors. An aggregate capitation cost covers a stipulated benefit package. Where HMOs vary the services they offer (the most extreme case being that where several HMOs are contract holders, each with its own benefit package), some way of segregating the costs of benefits not offered must be devised.

A particularly prevalent problem has been the lack of age and sex data for the population to be analyzed, and more frequently, such data for the costs associated with providing benefits to the age/sex groupings. Age/sex adjustments are not in themselves definitive, but they do represent the most powerful standardizing tool available to the analyst. Cost differences have been shown to exist between age and sex groupings. Therefore, examination of how these groupings vary as proportions of given populations is indicative of relative costs between like populations. This data, when maintained, is often recorded in fairly large breakdowns (i.e. 0-19, 20-44, 45-64, over 65). When analyzing large numbers of people, the age/sex composition of a particular aid category tends to remain very much alike, even when comparing far-flung geographical areas. However, a real possibility for distortion exists when data is maintained in large age breakdowns. When a new HMO, or a small HMO, enrolls a relatively small number of Medicaid eligibles, the age/sex distribution of the enrollees may not resemble the distribution of the aid category eligibles as a whole. When data is maintained in large age breakdowns, it is much more difficult to adjust for the possibility that the enrollees of that HMO do not have the same composition as that of the entire aid category. This atypical distribution will probably lead to a different need for services, and therefore, a different cost. Because large age breakdowns are not sufficiently sensitive to differences in distribution, it is recommended that age/sex data be maintained in five-year breakdowns.

IX. Use of Community Rate Basis

It has been previously noted that if the validity of the basic community rate can be established, then it can be a sound basis for determining the Medicaid amount.

Such a determination takes into account two differences from the "regular" private market business of the HMO:

1. The Medicaid-eligible people are likely to be different in terms of age and sex characteristics (and hence in terms of expected utilization) from the regular HMO enrollees; and

2. The benefits for Medicaid eligibles are likely to be different than those that apply to private market enrollees.

The following tables present an illustration of how the basic community rate of an HMO can be converted to a Medicaid rate.

Table IX-A, on the following page, shows an estimate of how the total capitation rate of a particular HMO is obtained. It gives a starting base showing the breakdown of costs by category and the basis for the key cost assumptions.

Table IX-A

Estimated Breakdown of Proposed
1977 Community Capitation Rate

Inpatient HOSPITAL	Estimated Utilization 450 day/1,000	Estimated Cost Per Service $192.00/day			Monthly Capitati Rate $ 7.20
CLINIC services					
Physician services	2.90 visits	$22.00/visit	$5.32		
Surgery	(25% of physician services)		1.33		
Immunizations	.330 immun's.	$ 6.00	.17		
Medical supplies	Estimated		.15		
Health education	Estimated		.05		
Home health care	.100 visits	$15.00/visit	.13		
Total clinic				$7.15	
Referred physician	.48 visits	$57.75/visit		2.31	
Outpatient laboratory	2.25 services	$ 3.20	$ .60		
Outpatient radiology	.24 services	$20.00	.40		
Total disgnostic				1.00	
Inpatient mental health	.025 days	$206.40/day	$ .43		
Outpatient mental health	.165 visits	$ 50.00/visit	.68		
Required services for drug & alcohol abuse	.035 services	$ 50.00	.15		
Total mental health				1.26	
Preventive dental	.085 visits	$ 10.00/visit		.07	
Outpatient hospital	.150 visits	$ 32.00/visit		.40	
Emergency services	.025 services	$ 38.40/visit		.08	
Misc. & out-of-area	Estimated			.19	
Prescription drugs	2.52 prescs.	$ 5.00/Rx		1.05	
Total MEDICAL					$13.51
OVERHEAD					
General administration				$2.15	
Additional clinic facilities				.45	
Contingency reserve				.02	
Debt financing				.28	
Depreciation				.15	
Stop-loss reinsurance				.25	
Total OVERHEAD					$ 3.30
Total Per Capita Cost					24.01
Less: Copayment revenue					(1.00)
Total CAPITATION RATE					$ 23.01

Table IX-B shows a prospective differential in hospital utilization between the Medicaid enrollees and the "regular" membership of a representative plan. This is done by applying the age/sex distribution both both populations against the standard age/sex specific hospital utilization rates. (Data for the Kaiser Foundation Health Plan, Northern California, for 1974, has been used in this example.)

Other sets of hospitalization rates would do as well for this purpose. The object is not to indicate how many days of hospitalization are to be expected in a particular HMO, but rather the differences in utilization which can be attributed to the different age/sex composition of the two groups.

It can be seen that the total membership can be expected to produce 334.9 hospital days per 1,000 enrollees per year, whereas the Medicaid enrollees will produce about 72 percent of that figure, or 241.8 days.

Table IX-C makes the same comparison for physician visits, using standard statistics from the Health Insurance Plan of Greater New York. It can be seen that the Medicaid population can be expected to account for physician utilization at the rate of 3.52 visits per person per year, whereas the total membership can be predicted to use the services at a somewhat higher rate -- 3.68 visits per year.

This can serve as a general indicator of relative clinic costs.

Table IX-D summarizes the foregoing, showing that hospital utilization for the Medicaid group is roughly 72 percent of the overall rate; physician visits and expected clinic costs about 96 percent. It should be emphasized that this is only an illustration which attempts to show the relative utilization of a Medicaid and non-Medicaid population for a new HMO. In this case, the experience of other plans is applied to the new HMO's own estimates of membership by age and sex because the new HMO does not have experience of its own to use as data.

Table IX-E applies the foregoing percentages (computed in Table IX-D) to the rates, as shown in Table IX-A, and shows the estimated costs for additional benefits to be provided to the Medicaid-enrolled population. These estimates can be arrived at through discussion with the HMO's staff, by reference to the experience of other HMOs, and by noting fee-for-service experience on certain items.

Table IX-B
Calculation of Relative Expected Hospital Days
Medicaid Versus Non-Medicaid

Age and Sex	City Health Plan Enrollment Proportions		Kaiser Hospital Use Rate*	Expected Days Per 1,000	
	Medicaid (1)	Non-Medicaid (2)	(3)	Medicaid (1) x (3) (4)	Non-Medicaid (2) x (3) (5)
Children					
Males					
0 - 4	.095	.039	228		
5 - 9	.110	.066	121		
10 - 14	.111	.071	115		
15 - 19	.047	.047	172		
Subtotal	.363	.223		153.8	148.6
Females					
0 - 4	.095	.033	173		
5 - 9	.102	.061	80		
10 - 14	.080	.065	89		
15 - 19	.077	.047	216		
Subtotal	.354	.206		135.4	128.8
Adults					
Males					
20 - 24	.009	.048	165		
25 - 34	.009	.069	165		
35 - 44	.007	.069	264		
45 - 54	.003	.061	517		
55 - 64	.003	.059	1,023		
Subtotal	.031	.306		304.5	422.9
Females					
20 - 24	.057	.047	514		
25 - 34	.105	.071	533		
35 - 44	.052	.076	441		
45 - 54	.021	.038	597		
55 - 64	.008	.033	838		
Subtotal	.243	.265		524.4	550.4
TOTAL	1.000	1.000		241.8	334.9

* Source: Kaiser, Northern California Region, 1974.

Table IX-C
Calculation of Relative Expected Physician Visits
Medicaid Enrollees Versus Non-Medicaid

Age and Sex	Enrollment Proportion		HIP Physician Use Rate*	Expected Physician Visits	
	Medicaid (1)	Non-Medicaid (2)	(3)	Medicaid (1) x (3) (4)	Non-Medicaid (2) x (3) (5)
Children					
Males					
0 - 4	.095	.039	6.7		
5 - 9	.110	.066	3.0		
10 - 14	.111	.071	3.0		
15 - 19	.047	.047	3.0		
Subtotal	.363	.223		3.96	3.65
Females					
0 - 4	.095	.033	3.8		
5 - 9	.102	.061	1.9		
10 - 14	.089	.065	1.9		
15 - 19	.077	.047	3.0		
Subtotal	.354	.206		2.63	2.46
Adults					
Males					
20 - 24	.009	.048	3.0		
25 - 34	.009	.069	2.7		
35 - 44	.007	.069	3.2		
45 - 54	.003	.061	4.3		
55 - 64	.003	.059	5.9		
Subtotal	.031	.306		3.36	3.80
Females					
20 - 24	.057	.047	3.0		
25 - 34	.105	.071	4.5		
35 - 44	.052	.076	4.4		
45 - 54	.021	.038	5.1		
55 - 64	.008	.033			
Subtotal	.243	.265		4.23	4.50
TOTAL	1.000	1.000		3.52	3.68

* Source: HIP-NY Annual Statistical Report, 1973.

Table IX-D

Summary

Expected Hospital and Physician Utilization Rates
And Relative Cost Factors Based on Kaiser and HIP Experience

	City Health Plan		
	Medicaid Population	Non-Medicaid Population	Relative Cost Factor
Hospital (based on Kaiser)			
Male Children	153.8	148.6	
Female Children	135.4	128.8	
Male Adults	304.5	422.9	
Female Adults	524.4	550.4	
Total	241.8	334.9	.7220
Physician Visits (based on HIP)			
Male Children	3.96	3.65	
Female Children	2.63	2.46	
Male Adults	3.36	3.80	
Female Adults	4.23	4.50	
Total	3.52	3.68	.9565

Table IX-E

Conversion of Community Capitation Rate
to Medicaid Rate for AFDC Aid Category

Benefits		Community Rate	Medicaid Adjustments (Estimated)	Adjusted Rate for Medicaid Enrollees
Inpatient HOSPITAL		$7.20	.7220X	$5.20
MEDICAL				
Basic HMO Items				
Clinic services*	$7.15			
Referral physicians	2.31			
Outpatient diagnostic	1.00			
Mental health	1.26			
Preventive dental	.07			
Hospital outpatient	.40			
Out-of-area, emergency & miscellaneous	.27			
Subtotal		$12.46	.9565X	$11.92
Additional Benefits Required by Medicaid				
Extended Care	-		+ $ .10 (e)	
Other practitioners	-		.59	
Dental services	-		3.69	
Physical therapy	-		.10 (e)	
Prescribed drugs	$1.05		1.46	
Eyeglasses	-		.05	
Prosthetic devices	-		.11	
Transportation	-		.05	
Subtotal		$ 1.05	+ $6.15	7.20
Total MEDICAL		$13.51		19.12
OVERHEAD				
Administration	$2.75		+ $ .25 (e)	
Debt Financing	.28		-	
Reserves	.02		-	
Reinsurance	.25		-	
Total OVERHEAD		3.30	+ $ .25	3.55
Total Per Capita Cost		$24.01		$27.87
Less: Copayment Revenue		(1.00)		-
Net CAPITATION RATE		$23.01		$27.87

* Includes: Physician services, surgery, medical supplies and equipment, immunizations, health education, and home health care.

(e) Estimated

An alternate method of determining the reasonableness of a proposed Medicaid capitation rate renewal is shown in Table IX-F. The prior HMO Medicaid capitation rate is adjusted to reflect anticipated changes in cost items over a specific period of time. The adjustment factors are derived from two primary sources.

First, the Consumer Price Index is used to trend the rate of inflation for each item in the benefit package. Inflation adjustment factors are as specific to the benefit as possible, and are calculated by using individual components of the Medical Care Section of the Consumer Price Index.

Second, statutory and/or administrative controls may be placed on cost items. For example, while the cost of a day in the hospital may be rising by 15 percent annually, a legislative ceiling may prevent the State from paying more than a 7 percent per year rise. In this case, an adjustment factor designed to project hospital costs one year into the future would be 1.07.

Table IX-F

Estimated HMO Medicaid Capitation Rate

	1975-1976 Rate*		*	Adjustment Factor		Estimated 1976-1977 Rate**	
Inpatient HOSPITAL			$6.10	1.136			$6.93
MEDICAL							
Basic HMO Items							
Clinic services	$6.75			1.095	$7.39		
Referral physicians	1.75			1.107	1.94		
Outpatient diagnostic	1.25(e)			1.066	1.33		
Mental health	1.25			1.059	1.32		
Preventive dental	.06			1.054	.06		
Hospital outpatient	.50(e)			1.111	.56		
Out-of-area emergency & miscellaneous	.30			1.059	.32		
Subtotal		$11.86				$12.92	
Additional Benefits Required by Medicaid							
Extended care	-						
Other practitioners	-						
Dental services	$4.49			1.054	$4.73		
Physical therapy	-				-		
Prescribed drugs	1.10			1.058	1.16		
Eyeglasses	.75			1.059	.79		
Prosthetic devices	-				-		
Transportation	-				-		
Subtotal		6.34				6.68	
Total MEDICAL			18.20				19.60
OVERHEAD							
Administration	$2.45			1.050(e)	$2.57		
Debt Financing	-				-		
Reserves	-				-		
Reinsurance	-				-		
Total OVERHEAD			2.45				2.57
Total CAPITATION RATE			$26.75				$29.10

* As calculated by HMO for Medicaid.

** As derived from adjustment of community rate.

The foregoing series of tables goes through the process of analysis necessary to adjust the prospective experience with private market enrollees to the prospective experience with Medicaid beneficiaries enrolled in an HMO. It is based on the presumption -- generally but not always true -- that age/sex differences will, in the long term, account for the main differences in utilization between Medicaid and non-Medicaid enrollees.

This suggests that poverty, per se, does not produce a significant, lasting difference in the need for or utilization of medical services: that people can be equalized in this regard through participation in managed systems for providing medical care.

While this may be a valid hypothesis for AFDC and OAA beneficiaries -- people whose eligibility is poverty-dependent -- it cannot be true for medically-needy people, or for the blind or disabled. These categories cannot be equated with those who would be enrolled in an HMO through the private market. Consequently, there is no reason to expect that a valid rate for medically-needy people, blind people, or disabled people can be arrived at through age/sex adjustment of a community rate.

Nevertheless, the basic community-rate analytical technique can be used in a variety of situations. Base costs are established for each cost category or items of service. If utilization for Medicaid people can be expressed as a multiple of that for private market enrollees, it can serve as a basis for adjusting the community rate.

X. Review of Assumptions and Rate Modeling

Review of an HMO's rates can be best approached in terms of the reasonableness of each component of the rate. This means that each part of the rate is scrutinized, with questions asked about the logic and data supporting each item.

The rate is built up as the sum of its parts. If each individual part is valid, then it is generally true that the whole rate is justified, reasonable, supportable.

The process of review can be assisted by using a series of guideposts, stated here in the form of questions.

1. Population. If utilization and cost data is presented, to what population does it apply? It is likely to be valid for another population?

2. Time, Circumstances, Location, Organization. Where does the data come from? What kind of organization was, or is, involved? Where is it? Are there any special circumstances that should be taken into account in interpreting the data or in judging its transferability?

3. Hospital Inpatient Costs. What is the utilization rate per 1,000 enrollees per year? What is the rate for medicine; for surgery; for obstetrics? Has the rate varied or changed significantly, or has it been stable?

How does it compare with "standard" measures of utilization? Is extended care facility anticipated? Is it counted in with hospitalization or listed separately? What hospitals will be, or are being used? What rates are being paid? What rates are anticipated? How does the per member cost of hospitalization compare with other HMOs, with fee-for-service? What explanations are there for the differences?

4. Medical Service Costs. If a group practice, how many doctors are to be used in relation to the enrolled population? What proportion are primary care physicians? Specialists? What specialties are represented? How much are the physicians paid? What medical work will be referred out? Through what arrangements? What supporting staff is employed? How many? What are their skills? How much are they paid? What are the costs for facilities? For supplies? For equipment amortization?

5. Diagnostic Services. Will X-ray, laboratory, and other diagnostic tests be performed in-house or referred outside? If in-house, does the budget include adequate provision for personnel? Equipment? Supplies? If referred, under what arrangements? At what costs?

6. Other Services. What utilization levels and costs are anticipated for such services as outpatient emergency care (at hospital emergency room), ambulance service, home health care, eyeglasses? Are all services included in the rate calculation? Are any left out? Are any double-counted?

7. Administration and Overhead. What is included? What are the component costs? What functions are performed? How, on a function-specific basis, does the cost compare with that of other HMOs?

   (Note that strict definition is necessary to distinguish between the administrative aspects of medical service costs common to all health care providers, and health plan administrative costs -- the special expenses of enrolling subscribers and administering the plan.)

Further questions may be developed. But the important point is that it is necessary to discover, through a process of questioning, what specific facts underlie the rate assumptions.

Some assumptions will fall directly into rather conventional patterns. For example, as shown in Table X-A, health maintenance organizations generally have utilization statistics and resource allocations falling into the following ranges.*

* For employee-group private market enrollees. Medicaid requirements may differ.

Table X-A

Range of General HMO Utilization Experience
(per thousand persons per year)

Service	Range
Hospital days	250 - 800
Hospital admissions	50 - 150
Physician office visits	2,500 - 5,500
Laboratory tests (outpatient)	1,500 - 6,000
X-ray tests (outpatient)	300 - 700
Physical therapy services	150 - 300
Hospital outpatient and emergency room	125 - 275
Inpatient mental health days	10 - 70
Prescriptions	3,000 - 8,000

It must be emphasized that each HMO must be looked at individually. It would be a mistake to conclude that because all the facts for a particular HMO fall within these "conventional" ranges, no further attention is necessary, or that attention to program validity is superfluous. The utilization statistics and resource needs cited above have been shown to have some general application to private market enrollment of established HMOs. General norms have not yet been developed for Medicaid enrollees in HMOs -- nor is a great deal of standardization valid for newer HMOs.

For more particular application to a State's Medicaid program, rate modeling is a useful process. The result is a more-or-less complete exercise showing what utilization, costs, and rates for an HMO should be, based on the validity of the underlying assumptions.

The steps in rate-modeling can be seen as a process of building up a valid, supportable picture of the resources necessary to sustain an HMO's operation in caring for a Medicaid population.

The steps involved (after a class or category of HMOs has been selected for analysis) are these:

1. Accumulate valid data. Later in this report recommendations will be made as to the reporting rules and tabular formats for periodic reports to be made to the State by the HMOs.

2. Assemble data aggregates. Comparable data from year to year, from plan to plan, from group to group, should be arrayed so that similarities and differences can be analyzed. In the process, data should be standardized for age, sex, and service differences.

3. Analyze available data. This can involve evaluation of "credibility", i.e., the reliability of the data as a predictive tool. Statistical principles apply here: the reliability of the data depends on sufficient exposure. With small numbers of people or short periods of time (or both) "anything can happen". Thus, analysis starts with getting comparable data from as many sources as feasible. Wherever possible, the interpretation of the data should take into account adjustments for age and sex. If Medicaid experience data of the HMO is based on sufficient exposure and conforms to that of:

    - a grouping of comparable, contractual HMOs,

    - all contractual HMOs,

    - external HMOs,

    then it may be recognized as reliable or credible. If these conditions are not present, it may be necessary to select data from other or broader experience in order to achieve more predictive value.

Use of actuaries who are experienced in HMO rate-making may be the most practical way to start this process without going through a great deal of analysis or research in order to build up a fact-base. It takes some practical knowledge to recognize what may be considered "credible" or "normative" experience that represents a feasible standard for real-life HMOs.

A temptation would be to "standardize on the most favorable," to select the most efficient HMOs as the standard which all must meet. But this is not appropriate: the object should be to reflect what is reasonably achievable by all HMOs in a particular category or classification. This is similar to establishing reimbursement rates for hospitals according to the size of the hospital and the types of services it can be expected to efficiently provide.

A further pitfall could be to assume that the mix or distribution, utilization, services, and/or costs must be the same for all HMOs in a category. But this is not possible: even within rather finely-drawn categories, there will be inevitable differences from one HMO to another.

In the example which follows (Table X-B), available facts from three operating prepaid group practice plans are presented. These indicate both the estimated utilization and the pertinent cost figures. When placed side by side, the differences among the three plans are clearly demonstrated.

It can be seen, for example, that while two HMOs figure on hospitalization at the same rate (450 days per 1,000 enrollees per year), one HMO pays an average per diem cost of $220 and the other $125; the third HMO counts on 525 days at $200 per day. In terms of physician staffing, one HMO uses one physician per 1,000 enrollees; another is higher -- 1.2 physicians per 1,000 enrollees; and a third is lower -- .95. Such variation is to be expected.

Table X-B

Comparison of Three Sample Medical Groups

Expense Item	One-Stop Medical Association		Kildare Health Plan		Welby Medical Plan	
	Est. Util. (1)	Cost/Unit	Est. Util. (1)	Cost/Unit	Est. Util. (1)	Cost/Unit
Inpatient hospital	450 days	$ 220.00	450 days	$ 125.00	525 days	$ 200.00
Extended care	20 days	60.00	25 days	20.00	100 days	40.00
Physician staffing	1.0 MDs	43,000.00	1.2 MDs	50,300.00	.95 MDs	38,300.00
Other professional staff	2.3 staff	15,000.00	3.6 staff	10,000.00	2.2 staff	10,000.00
Related staff costs-professional staff (2)	15.0%		17.5%		10%	
Medical referrals	64 refs.	80.00	Not separated		Not separated	
Diagnostic referrals	65 refs.	95.00	1,300 refs.	56.50	80 refs.	50.00
Medical supplies	3,600 visits	1.00	4,000 visits	1.50	4,000 visits	3.00
Outpatient mental health care	155 visits	40.00	Not separated		130 visits	55.00
In-area emergency care	12 visits	50.00	100 visits	35.00	30 visits	40.00
Ambulance	24 trips	50.00	35 trips	45.00	28 trips	45.00
Preventive dental	Not separated		240 visits	10.00	150 visits	12.00
Family planning	270 packets	1.35	Not separated		Not separated	
Home health care	50 visits	35.00	60 visits	25.00	Not separated	
Other staff	1.2 staff	19,100.00	1.1 staff	15,250.00	1.25 staff	10,000.00
Related staff costs-other staff(2)	10%		17.5%		10%	
Other costs (3)	20%		13.5%		20%	
Subtotal (4)	$26.00	PMPM	$19.00	PMPM	$21.00	PMPM
Dental care	1,200 visits	$ 23.00	-	-	-	-
Prescription drugs	3,600 RX's	4.75	-	-	-	-
Eyeglasses	115 RX's	55.00	-	-	-	-
Subtotal	$ 4.00		-		-	
TOTAL RATE (4)	$30.00	PMPM	$19.00	PMPM	$21.00	PMPM

(1) Utilization per 1,000 enrollees
(2) Fringe benefits expressed as % of salary
(3) Other costs (not specifically listed except as percentages) include reinsurance, malpractice, depreciation, rent, marketing and enrollment, etc.
(4) Cost per member per month

By weighing these assumptions and rounding or generalizing them, "norms" or "prevailing standards" can be created for each of the cost elements, remembering that these "standards" are indicative and not absolute. This is done in the following table (Table X-C) which estimates these "prevailing standards" into a monthly per person cost.

It can be seen that the process involved in rate analysis is one of particularization.

Although the concept is simple, it is worth mentioning again: the rate is built as the sum of its parts.

This means that the process of rate analysis involves looking at:

1. Each part individually, and

2. Each part in relation to the whole.

Through a process of analysis, it is possible to find "common threads" used by HMOs in building up the rates.

This enables the building of models for particular categories of HMOs. They can be used by responsible State officials to inform themselves of the rate-building process, the nature and dimensions of the elements involved, and something about how they interact and help to develop an informed judgment of what the rates for an HMO should be.

The next step is State review of HMO proposals. There should be a formal submission, presenting in some uniform and detailed fashion, assumptions or predictions as to:

1. the population to be served, location, aid category(ies), age and sex distribution(s);

2. expected utilization;

3. resource needs and unit costs.

Supporting facts and justifications should be required.

The HMO proposals can then be reviewed for reasonableness. This is the essential step, and relies on some judgment drawn from the previous "model-building" process. For example, if the information that goes into the model-building process indicates that prescriptions of drugs might range from 5 to 8 per person per year, and the HMO's proposal indicates an expectation of 12 prescriptions per person per year, this situation calls for a review of the basis and reasonableness of the rate incorporated in the HMO's proposal.

There is also reliance upon comparison. While HMOs are innovative and changing, not "set in their ways," it is nevertheless true that health care institutions in the same area, serving the same market, fulfilling the same purposes, tend to have more similarities than differences. For example, if one HMO figures on 500 hospital days per 1,000 enrollees per year, and a similar HMO figures on 800, a first need is to look for the factors which would account for the difference. These may be present: the population served may be different in aid category, or in age and sex composition. If there is no objective reason for such a difference, it becomes a matter for discussion in the context of setting the rates.

Table X-C

Sample Medical Group Capitation Rate
Based on Average Operating Standards

Expense Item	Estimated Utilization Per 1,000 Enrollees	Average Cost Per Service Item	Monthly Cost Per Person	
Inpatient hospital	450 days	$ 200 per day	$7.50	
Extended care	50 days	$ 40 per day	.17	
Physician staffing	1.0 MD	$45,000 per year	3.75	
Other professional staff	2.5 staff	$12,000 per year	2.50	
Related staff costs	-	15% of salaries	.94	
Medical referrals	60 visits	$ 50 per visit	.25	
Diagnostic referrals	100 referrals	$ 60 per service	.50	
Medical supplies	4,000 visits	$ 2 per visit	.67	
Outpatient mental health care	140 visits	$ 40 per visit	.47	
In-area emergency care	35 visits	$ 35 per visit	.09	
Ambulance	25 trips	$ 45 per trip	.08	
Preventive dental	120 visits	*	NC**	
Family planning	250 visits	*	NC**	
Home health care	50 visits	$ 30 per visit	.13	
Administration staff	1.2 staff	$14,000 per year	1.40	
Related staff costs	-	12% of salaries	.17	
Overhead	-	18% of total rate	4.91	
Subtotal				$23.53
Dental care	1,000 visits	$ 20 per visit	$1.67	
Prescription drugs	4,000 RX's	$ 5 per RX	1.67	
Eyeglasses	120 RX's	$ 40 per RX	.40	
Subtotal				3.74
TOTAL RATE				$27.27

*Cost included under staff and supplies

**No charge

XI. Objective Variables

HMOs differ from each other in terms of style of operation, facilities, management, and services available. If there is a system for a State's recognizing objective differences in enrollment (those arising from age and sex characteristics), it may be extended to recognizing other differential characteristics.

Objective variables, representing differences in services available from one HMO to another, can be recognized in the rate.

Consideration may be given to allowing a portion (perhaps up to 10 percent) of a capitation rate to be governed by the presence or absence of such variables. One way to approach this is to reduce the otherwise-payable amount by a percentage, and then restore it as variables are recognized.

The following list is not complete, but indicates the kinds of variables which can be recognized. They do require some expenditure, and are generally regarded as desirable, tending to promote effective service and long-term cost stability.

1. A unit medical record is said to be the single most important attribute of a prepaid group practice program, allowing for and guiding the rational provision of medical care.

2. An improvement is the "problem-oriented medical record." It generally requires more attention and work but is said to be productive in guiding the provision of care.

3. Peer review activities take staff time, but, when formal and documented, can be effective in reducing unnecessary utilization and sometimes in avoiding errors in judgment.

4. The practice of taking an initial baseline physical examination to direct care for new enrollees, can assist in effective operation and health maintenance.

5. Allied health personnel can not only substitute for physician time, but can also be a resource for improved patient access and communication.

6. Health education activities can take staff time but may result, over time, in modified behavior and reduced demands for health services.

7. Patient education, specific to particular disease processes or conditions, can help enlist the cooperation of the patient in his own care.

8. Adequacy of service can be measured from such indicators as waiting time for appointments, waiting room delays, and disenrollment rates.

9. Adequate activities and procedures for relating to consumers and the community can result in greater responsiveness on the part of the health care delivery organization.

10. On-premises 24-hour emergency service can be regarded as serving the continuity of care.

Paying toward the cost of (or as a reward or inducement for) desirable health plan features such as the ten listed above represents:

1. a recognition that HMOs which undertake such activities render a more complete and valuable service;

2. some belief that, over the long term, these activities will result in "health maintenance" and greater stability in health care costs.

Beyond such differences, it may be possible to recognize in an HMO's rate, other factors which can bear on its costs. Among these are objective differentials in operating costs resulting from geographic location. Costs (such as for space and facilities) can vary considerably between rural and urban locations. Salary levels may also vary, as may physicians' fees.

Some explicit recognition can be given to the start-up costs for new prepaid group practice programs. These represent efforts toward substantial change and organization of the health care delivery system, and involve organizational and start-up costs which are greater than those for conversion of an existing practice to conform to the HMO economic and legal model (according to the regulations of each State). While it is not feasible to underwrite full start-up costs (Federal grants are being used for some costs), it may be practical to recognize a portion of interest or amortization costs on start-up loans.

Some allowance might be made to recognize the varying adequacy of facilities. While it may be difficult to arrive at an objective measure of adequacy, it is clear that it may be possible to "get by" using antiquated or inadequate quarters or equipment. However, the adequacy of the facility has a bearing on the adequacy of services. The object of a variable payment would not be to encourage extravagance or luxury in physical facilities; however, it could be used effectively (along with instruction) to discourage inadequacy.

In summary, it is desirable to create financial recognition for differences among HMOs. However, it is most important that these be based on clearly-identified objective factors. If this approach is followed, it may well serve to reduce the burden on the State in regulating Medicaid-contracting HMOs.

XII. Negotiation

All of the foregoing, concerning the techniques for rate determination and evaluation, still will not produce -- through an automatic formula -- an "answer" which will be universally correct or acceptable.

Analysis of rates can be viewed in context: as a preparatory tool for rate discussions or negotiations.

Rate-setting is a multifaceted and interactive process. Every contract and each rate will reflect in some way the accomodation to needs: the HMO to the needs of the State; the State to the needs of the HMO; both to the needs of the beneficiaries or enrollees.

Parties to a rate discussion have prime objectives which must be kept in mind:

- The State - to stabilize or lower costs;

- The HMO - to achieve or maintain organizational strength.

The State also represents the beneficiaries, whose prime interest is in the quality, convenience, accessibility, and acceptability of the HMO's service.

It is important to keep these objectives in mind so as not to conduct negotiations in a way which would be self-defeating.

For example, an HMO in a poverty area might depend on a Medicaid contract for its economic survival. The State could use this fact in negotiations to achieve greater savings, forcing the HMO to accept an artificially-contrived lower rate. In turn, the economic viability of the HMO, its potential for achieving long-term savings, and/or the HMO's services to beneficiaries, can be compromised.

Keeping in mind the three primary objectives, we can look at what else a contract can mean to the HMO and to the State.

Advantages to the HMO

1. The Medicaid contract can produce an important source of enrollment;

2. Medicaid enrollment can give the HMO a fixed base:

    a. for establishing its services;

    b. for expanding its services.

A larger enrollment helps spread fixed costs. An HMO is little different from other suppliers of services: its eagerness to enter into a new contract depends upon the extent that it has fixed costs not covered by current revenue.

The eagerness of HMOs to make money has been greatly over-emphasized. Not only are most HMOs non-profit, community service enterprises, but the few HMOs that aspire to profits have found them hard to achieve.

The real interest of most HMOs can be best defined in terms of organizational viability, expansion, or survival. A new HMO will start out with an administrative staff, for example, that is capable of handling a larger enrollment. The sooner the fixed costs can be spread among a larger number of enrollees, the better off the HMO will be. An operating HMO will have staff and facilities and must keep its enrollment balanced to its capacity. Being aware of this, it will try to expand its capacity or services when it knows it has a market. For example, new facilities for mental health services or for dental care can best be established when a fixed enrollment base for them, such as through the Medicaid program, can be assured.

Disadvantages to the HMO

Medicaid contracts have not been regarded by HMOs as an unmixed blessing. Among the concerns expressed as disincentives are:

1. The high turnover of eligible enrollees;

2. The difficulty of controlling out-of-plan use by members who may be used to emergency-room care;

3. The difficulties and costs in enrolling Medicaid eligibles;

4. The possibility of inadequate reimbursement, because of general budget cuts or otherwise;

5. The prospect of "red tape" in governmental contract administration;

6. The expense of providing unusual or special reports to government agencies.

Advantages to the State

States have expressed various reasons, apart from direct cost savings, for contracting with HMOs.

1. Fostering valid alternative delivery systems can reduce costs in the fee-for-service sector. The more HMOs there are (and the stronger they are) the greater is the pressure on the fee-for-service system to review utilization and to control costs. HMOs and fee-for-service are, after all, in competition. To the extent that competition can be made real and active, fee-for-service care may respond.

2. States can save on administrative costs associated with processing claims. All of this business is handled internally by the HMO.

3. HMOs have demonstrated long-term cost stability. There is no reason to believe that this attribute cannot work as well for public sector enrollment as it has for private sector. It makes sense that the organization of care into more efficient, planned systems works to keep costs under control.

Disadvantages to the State

States have expressed the following reasons for not contracting with HMOs, or for approaching the subject with caution.

1. New administrative procedures, and possibly new personnel, are needed in undertaking a new activity;

2. Rates and contract provisions can present technical difficulties;

3. Evaluating an HMO and the quality of its service can be an uncertain proposition; and

4. Certain States have been embarrassed by some aspects of their HMO contracting programs.

The member, although not a direct participant in the decisions to contract, or in the negotiations, also has interests and incentives that should be recognized.

Advantages to the Member

1. HMOs that are well-run and large enough to have an array of health professionals available assume a degree of convenience and logic that is often lacking in the fee-for-service system.

2. This type of HMO has stood the test of time and has been shown to provide good, and often exemplary medical care.

Disadvantages to the Member

1. Large organizations must work at staying personalized. HMOs do not always succeed in this.

2. Enrollment in the HMO limits the member's choice. He can decide to leave the HMO, but while enrolled he must accept the choice of physicians available within the HMO. Some people think it is an advantage that someone is responsible for providing available and skilled professionals, while others find it too limiting.

Assuming that all these issues, cautions, and predispositions can be resolved, the State and the HMO will then get down to practical negotiations. A number of factors, apart from price, will affect the attractiveness or acceptability of the arrangement. These include:

1. Administrative Arrangements. The arrangements made for enrollment (managing the transfer of the enrollee from the fee-for-service lists to the HMO) can be burdensome on the HMO.

2. Enrollment Rules. These can be difficult and expensive or relatively easy for the HMO.

3. Timing of Payments. A State can assist the cash flow of an HMO by timely payments. Advance payments may be justified in some circumstances, adding to the working funds available to the HMO.

4. Risk Sharing. A State can effectively act as a reinsurer, absorbing costs above a certain per person limit (such as $5,000 or $10,000 per person per year). If the State does this, the HMO does not need to bear the expense of reinsurance coverage.

5. Benefit Coverage. The State may require that the HMO directly provide all the services included in the Medicaid program, or it may permit the State to contract for them, on a risk basis, or on a non-risk basis. It may provide that the enrolled individuals may carry limited-purpose Medicaid cards entitling them to such "separable" services as dental care, prescription drugs.

6. Reporting Requirements. The HMO may be prepared to readily produce the reports which will be required by the State or substantial extra effort may be required.

These and similar issues must be dealt with realistically: they can make a considerable difference. They are as much a part of the contract negotiation as the matter of price, because they influence both cost and price.

For example, the administrative arrangements for enrollment may require that an HMO "carry" a new enrollee without compensation while the transfer from fee-for-service to enrolled status takes place. On the other hand, these arrangements might work out, in practice, so that an HMO can render extensive services to a new enrollee and be reimbursed on a fee-for-service basis.

Enrollment rules might be structured so that new enrollees learn of the HMO from information given when they are enrolled in the Medicaid program. On the other hand, door-to-door solicitation may be required. If there are many competing HMOs, the problems of finding eligible people and "selling" them on HMO enrollment are compounded, adding to expense.

The arrangements to be made for coverage of benefits not provided by the HMO directly have several possible implications. If the HMO is required to bear financial responsibility for services it does not provide (such as dental service) its risk can actually be considerable, or the risk may be perceived as such because the HMO may not be able to predict its expense. If members are allowed to carry special-purpose Medicaid cards, the problems of out-of-plan utilization are compounded.

The foregoing have generally been found to be resolvable issues, but there are some issues which have become sticking points in State-HMO relationships.

There is no universal way to resolve them, but they can be identified and a few observations made.

1. Medicaid enrollees will produce unusual utilization patterns. While the facts generally do not support this thesis, it can be a firmly-held belief on the part of HMOs. While some statistics can be advanced to demonstrate that categorically-needy Medicaid beneficiaries are not unusually disease-ridden, this has little effect on an HMO which envisions a population exhibiting limitless demand.

A difference in the pattern of utilization (i.e. more emergency-room use) may lend credence to this fear. In such as case, a possible solution is to offer a no-risk contract for an initial period during which actual utilization will be studied so that it can be used as a basis for defining possible future utilization and cost.

2. The costs of the HMO are inappropriate. State officials have sometimes raised questions about managerial decisions in HMOs, including questions of "style." HMO managers might have pay and perquisites exceeding that of the State officials with whom they deal, and this can be disturbing. It may help to quantify the particular items in question to see if they do represent significant additional costs. Usually they do not. Beyond that, however, is the fact that the HMO is not an agency of the State in the sense that its internal decisions are subject to whether or not the State will contract with the HMO, not whether the HMO will bend its style of operation to the preferences of the State officials.

3. The HMO's costs are too high: it is not viable or it is inefficient. New prepaid group practice HMOs generally have costs higher than any price they can charge. This is because they have geared to higher capacity than their present enrollment. Recognizing this as a nearly universal practice, the Federal HMO program provides for loans to developing HMOs. Therefore, during developmental periods in which growing HMOs are being sustained by loan funds, the appropriate measures of cost and viability are those which are projected to apply when the HMO reaches a break-even point, or equilibrium. This includes the costs of financing and amortizing the initial deficits.

   It is possible that some HMOs will not prove viable. They may be in circumstances which are not favorable to their development, or they may be poorly run. They may not be working on a basis which is appropriate for their location. These are matters of judgment. But the requirement of contracting only with Federally-qualified HMOs reduces the margin for error considerably: the qualified HMOs have passed stringent tests as to organization, viability, and ability to survive.

4. The HMO will select or has selected its enrollees: there is adverse selection or favorable selection. The State may consider that the HMO can somehow confine its enrollment to those who are healthier, needing fewer services. (This would be called "favorable selection" in the HMO's terms.) Within the categorically-needy AFDC and OAA groups, the main factors influencing the need for services are age and sex. Hence, standardization for age and sex, as discussed earlier in this manual, can be a step in the direction of identifying any such program, and, if warranted, adjusting the rates. It should be observed that it is very difficult to maintain any kind of favorable selection when a substantial number of people are being enrolled. It is simply not feasible to go through large numbers of people looking for the "select risks," enrolling

only these individuals.

On the other hand, "adverse selection" is a realistic prospect: it arises when people perceive certain advantages for themselves in enrolling in the HMO, and proceed to do so. If there are restrictions on services available through fee-for-service, but no comparable restrictions on HMO enrollees, there is a prospect that the persons who use more physician services could be more inclined to join an HMO.

The resolution of such an issue is complex. But like other issues, it must rely on the analysis of objective data.

XIII. Monitoring Experience

Each HMO, for its own practical internal purpose, must maintain some form of information system by which it can keep track of the number of people enrolled, the services provided, and costs. These reflect, from one HMO to another, somewhat different approaches: some larger HMOs using sampling techniques to learn utilization rates, while others record each service for statistical purposes; some monitor continuously and other periodically; some use computer terminals to acquire information, while others rely on paper forms.

Federal HMO qualification, under Public Law 93-222 (Sections 1301G (11) and Section 1315) carries with it an obligation to:

> "Provide an effective procedure, while safeguarding the confidentiality of the doctor-patient relationship, to develop, compile, evaluate, and report, at such times and in such manner as the Secretary may require, to the Secretary, to its members, and to the general public, statistics and other information relating to:
>
> The cost of its operation;
>
> The patterns of utilization of its services;
>
> The availability, accessibility, and acceptability of its services;
>
> To the extent practical, developments in the health status of its members; and
>
> Such other matters as the Secretary may require."

The reporting forms required of Federally-qualified HMOs are available through the Regional Offices of the Department of Health, Education and Welfare. Such forms were promulgated in February 1976, under the title of "Health Maintenance Organizations National Data Reporting Requirements" with the citation HSA-51 and OMB No. 63-R-1496.

Each State contracting with HMOs in its Medicaid program will have to decide on the extent, scope, and form of the data it will require of contracting HMOs. There are basically two options: to require the same information as the Federal government requires of qualified HMOs (a minimal set of data which is applicable to total membership and does not lend itself to the detailed analysis of Medicaid members) or to require additional data.

Of first concern is the need for data. This depends largely on the conceptual basis or approach chosen by the State for determining capitation rates. If the approach is to base payments on fee-for-service costs, a minimal data set is all that is necessary. That (and such external evidence as continued Federal HMO qualification) may be enough to demonstrate the basic validity and viability of the HMO contracting program. If the approach is one of basing payments on community rates, then it is essential to obtain more data -- to at least indicate differential utilization between Medicaid and non-Medicaid enrollees. If the approach involves paying projected costs, or some variant of that, then it is equally essential to obtain complete data so that the validity of the cost estimates can be assessed.

A second concern which should be considered in choosing a payment approach is the availability of staff in the State Medicaid agency to receive, read, check, interpret, tabulate, summarize, compare, understand, and use the data. Interpreting and using data is a significant technical skill: a Medicaid agency may have its own staff, use other program staff on an occasional basis, or it may employ consultants. In any event, a great deal of effort is wasted if data is produced which is not used.

In connection with rate-setting, the use of data is to minimize speculation, and to provide a practical fact-base with which to evaluate what has happened in the past and to predict what is likely to happen in the future. While setting a rate for a beginning HMO involving some speculation and hazard, the process eventually resolves itself to one of projecting operating trends and of evaluating comparative statistics.

There are many possible variations in the ways that data can be summarized and presented. However, there are necessary and fixed rules governing the accumulation of the data. All the data accumulated for the program, in each HMO, should follow uniform rules as to the definition of an "encounter," what particular services are to be counted, and how the number of hospital bed days is to be defined. Such rules allow the data to be comparable.

A. Basic Principles of Utilization Rates

Utilization rates are derived by relating the eligible population to the records of services provided. This relationship must conform to certain established principles of data collection. In health services these principles should answer six questions.

1. Who received the service?

2. By whom was the service provided?

3. What was the service?

4. When was it provided?

5. Where was it provided?

6. Why was it provided?

Prepaid health care systems can gather reasonably complete data on eligibility and these six essential questions because they are required to assume full responsibility for specified services to a known group of paid subscribers or enrollees.

The fundamental principles are:

1. That all eligible people are known and recorded for any given period of time;

2. That all specified services provided to the eligible people are recorded in sufficient detail to answer any of the six questions whenever necessary;

3. That rates match the eligible population and services received for the same period of time.

If these principles are followed, the administrators of a prepaid health plan can gather and compare as much data as is required by external sources or which provides a justifiable return for the operation of the program. Several examples follow to show how utilization rates are calculated and how easily more complicated rates can be obtained by enlarging the detail of the data gathered, and how to tally the total number of services received by that population for the specified period of time. For example, an HMO has enrolled a certain number of people. The services they receive are tallied for the group as a whole without regard for individual age and sex.

	All Hospitalization	Membership
January	300	5,000
February	350	6,000
March	600	7,000
April	500	8,000
May	550	9,000
June	800	10,000
July	1,000	10,000
August	800	11,000
September	1,100	12,000
October	1,000	13,000
November	850	14,000
December	1,150	15,000
Total	9,000 Days	120,000 Member Months
Average Monthly Membership		10,000

The hospitalization rate per 1,000 members enrolled during the period January 1, 1976, through December 31, 1976, is calculated as follows: Divide the total number of days by the average monthly membership. Multiply the total by 1,000.

$$\frac{9{,}000 \text{ Days}}{10{,}000 \text{ Average Monthly Membership}} = .900 \times 1{,}000$$

The hospitalization rate is 900 days per 1,000 enrollees per year. Rates can be calculated from shorter periods of time. If the "exposure" is smaller, the reliability is considerably weakened. The method for obtaining an annual rate from a shorter period of time is to express the result of dividing the total hospital days by the average population as proportionate to the time considered relative to the twelve months in a year.

January

$$\frac{300 \text{ Hospital Days}}{5{,}000 \text{ Average Monthly Membership}} = 0.06 \times 12 = .72 \times 1{,}000$$

The hospitalization rate is 720 days per 1,000 enrollees per year.

October-December

$$\frac{3{,}000 \text{ Hospital Days}}{14{,}000 \text{ Average Monthly Membership}} = 0.214 \times 4 = 0.857 \times 1{,}000$$

As evident from these manufactured figures, the choice of a small period of time could produce erroneous results. In addition to calculating rates from a full year's data, it is wise to relate utilization rates from one population to another according to the rate for specific age and sex distributions.

Hospitalization rates for the age group 45-64 can generally be expected to be five times that for ages 1-4, eight times that for ages 5-14, two times that for ages 15-24, one and one-half times that for the over-65 group.

These rates will also vary by sex within each age group, although not as dramatically, except for women in the childbearing years.

In the first example of determining hospitalization rates, it was necessary to know only the total number of people enrolled and the total number of hospital days attributable to this group for their specific time of enrollment. To obtain age and sex-specific utilization rates, it is necessary to relate each individual day of hospitalization to the individual enrollee hospitalized. Information on the enrolle's age and sex can be maintained elsewhere if there is a way to unmistakably relate the data.

By identifying each record of service with the individual enrollee, it is possible to readily record and compare data by age and sex for diagnosis at discharge, and length of stay for selected discharges. The important data principle here is merely an extension of the principles cited earlier, namely:

> Age- and sex-specific utilization rates must contain all, but only those, services received within a set time by the specific age and sex group known to be enrolled for the same period of time.

Hospitalization is generally expressed as a rate per 1,000 persons per year. Physician encounters are more frequent and more readily understood when expressed as a rate per person per year. (By moving the decimal point, the rate can be expressed as a rate for 10,000 or 1,000 persons per year.)

As an illustration, shown below is how the data from various sources can be used to determine rates by age and sex.

Population Data for Calendar Year 1976

Age Groups	Number		
	Total	Male	Female
Under 1	200	100	100
1 - 4	1,500	750	750
5 - 14	2,500	1,250	1,250
15 - 44	3,000	1,500	1,500
45 - 64	2,000	1,000	1,000
65 and over	800	400	400
	10,000	5,000	5,000

Total Physician Encounters For Age and Sex Among Enrolled Population During Calendar Year 1976

Age Groups	Number of Physician Encounters		
	Total	Male	Female
Under 1	1,000	500	500
1 - 4	5,000	2,500	2,500
5 - 14	10,000	6,000	4,000
15 - 44	18,000	8,000	10,000
45 - 64	18,000	8,000	10,000
65 and over	8,000	5,000	3,000
Total	60,000	30,000	30,000

The rate of physician encounters for the specified age and sex groups can now be determined because all data on the physician encounters for the covered population during the same period of time has been collected.

The rate per person per year is calculated by dividing the number of physician encounters by the eligible population.

$$\frac{60{,}000 \text{ physician encounters}}{10{,}000 \text{ eligible population}} = 6 \text{ physician encounters per person per year}$$

$$\frac{8{,}000 \text{ physician encounters}}{1{,}500 \text{ males aged 15-44}} = 5.3 \text{ physician encounters per male (aged 15-44) per year}$$

The totals for all other tables on physician encounters for the same population and the same period of time should be the same no matter how the data is presented.

Physician Encounters By Frequency For All Eligible Population
During the Calendar Year 1976

Frequency of Encounters	Enrollees		Provider Encounters	
	Number	Percent	Number	Percent
Total	10,000	100.0	60,000	100.00
0	2,500	25.0	0	0.00
1	100	1.0	100	.16
2	200	2.0	400	0.67
3	300	3.0	900	1.50
4	500	5.0	2,000	3.33
5	800	8.0	4,000	6.67
6	2,000	20.0	12,000	20.00
7	1,800	18.0	12,600	21.00
8	200	2.0	1,600	2.67
9	600	6.0	5,400	9.00
10 and over	1,000	10.0	21,000	35.00

By knowing each provider who requested specific services for the eligible population, it is also possible to calculate rates of prescriptions and laboratory procedures for physician office visits.

Physician Encounters by Location

Type of Provider		Location				
	All Places	Ambulatory Health Center	Home	Hospital Inpatient	OPD & ER	Other
General Practice	20,000	18,390	100	1,000	500	10
Pediatrics	10,000	8,790	100	1,000	100	10
Internal Medicine	15,000	12,790	100	2,000	100	10
OB-GYN	5,000	2,790	100	2,000	100	10
All Others	10,000	7,930	50	1,500	500	20
Total	60,000	50,690	450	7,500	1,300	60

Outpatient Services Ordered By Type of Provider

Type of Provider	Laboratory	Radiologic	Prescription	Therapeutic Injection
General Practice	6,000	1,000	8,000	1,800
Pediatrics	6,000	1,000	8,000	1,800
Internal Medicine	6,000	1,000	8,000	1,800
OB-GYN	6,000	1,000	8,000	1,800
All Others	6,000	1,000	8,000	1,800
Total	30,000	5,000	40,000	9,000

With these obviously manufactured figures, the rate per pediatric health center encounter can be determined.

$$\frac{6{,}000 \text{ Laboratory procedures}}{8{,}790 \text{ Pediatric health center encounters}} = 0.68 \text{ laboratory procedures for each pediatric health center encounter}$$

B. Recording Documents

The key to maintaining the logic of the basic principles is the document that records answers to six questions:

1. Who received the service?
2. By whom was the service provided?
3. What was the service?
4. When was it provided?
5. Where was it provided?
6. Why was it provided?

No single format is possible in recording documents to serve the interests of different plans, medical specialties, or location of services. All that is important is that the data be recorded in such a way as to be conductive to accurate input and efficient use. The tables in the next section of this manual require the collection of the following data:

Who

Positive identification of the individual with reference to the master file for:

1. Eligibility date;
2. Date of birth;
3. Sex;

4. Aid category;

5. Other information as required for administration.

By Whom

Positive indentification of the provider or practitioner with reference to the master file for:

1. Physician specialty;

2. Dental specialty;

3. Other health professional specialty.

What

Positive identification by procedure for:

1. Physician encounter or consultation;

2. Dental encounter;

3. Other health professional encounter or service;

4. Laboratory procedures;

5. X-ray procedure;

6. Immunization;

7. Therapeutic injection;

8. Ambulance;

9. Prosthetic and orthotic devices;

10. Eyeglasses, contact lenses, and eye appliances;

11. Hearing aid and appliances;

12. Hospitalization;

13. Nursing home days;

14. Convalescent care days.

When

For inpatient care:

Date of admission and date of departure.

For other services:

Date provided.

Where

1. Diagnosis for all hospital admissions;

2. Symptoms presented during outpatient visit;

3. Diagnosis determined during outpatient visit.

C. Data Elements and Their Uses

Data Elements		
Enrollee/Patient Information	Encounter/Visit Information	Financial Information
Name	Appointment status	Copayment and/or deductible $
ID number	Place	Premium and/or capitation $
Date of birth	Date/Time	
Sex	Type (medical, surgical, other)	
Group number	Reason for encounter	
Benefit class	Ancillary services ordered	
	Diagnosis/problem	
	Disposition of patient	
	Provider name and/or number	

Examples of Use		
Day-to-Day Operations	Month-to-Month Monitoring	Year-to-Year Evaluation, Planning
Appointment schedules	Monitoring Demand	Data displayed over time in rates
Eligibility file	Number and kind of persons enrolled in plan	(cost/member/year, encounters/member/year)
Billing files (premiums, deductibles, co-payments)	Number and kind of persons using services	Examples of use:
Orders for service (ancillary, inpatient)	Type of services used	negotiate capitation rates (estimate future utilization based on current adjusted patterns)
(For these formats, raw data are required)	Where and how services	
	Monitoring Supply	reallocate resources (based on current organization and practice, corrected for changing patterns of care and population)
Source: Information Needs, Information Systems: Some Concerns for Developing HMOs Reflecting the Experiences of Eight Operational Plans. Harvard Center for Community Health and Medical Care, July 1975. Prepared under DHEW contract #HSM 110-72-362, Development of Data Demonstration and Training Centers.	Number encounters by type of provider	(Raw data will usually not suffice. Statistical methods of analysis should be applied)
	Number ancillary services	
	Number outside referrals	
	Patient and provider profiles	
	Cost/charge for service	
	(To provide this information, raw data are required, although sampling methods may be used.)	

D. Suggested Reporting Tables

Following is a set of population (P) and utilization (U) reporting tables, which have been developed for use of HMOs in reporting to State Medicaid agencies. While not the only answer to the question of what data should be reported, these tables do present useful data. It differs from the National HMO Reporting Requirements primarily in that it includes:

(a) utilization statistics for hospital care and physician services broken down by age and sex of the recipients; and

(b) additional tables showing details of utilization.

A comparison is shown on the following page.

Financial (F) tables are also included for use when determining costs by functional area is relevant to a State's rate-setting activities. As with the population and utilization tables, many variations in format are possible. The important point is to find a way to present cost centers that can be detailed for utilization and unit costs and also to be able to compare a plan's projections with its performance at various times and with other plans.

Data Requirements Comparison

Data	DHEW-HMO Tables	Tables in this Manual	Comment
1. Membership by Month	P-1	P-1	Compatible.
2. Membership by Type of Provider	P-2	--	Not essential to State. Would not give total for each category.
3. Membership by Age and Sex	P-3	P-2	Compatible.
4. Total Ambulatory Encounters by Type of Provider and Location	U-1	U-6	Not compatible. DHEW does not show rate which is essential.
5. Staffing Characteristics	U-2	--	Informative, but not essential for annual rate application.
6. Total Inpatient Days by Service and Location, all members	U-3a	--	Not required for State Medicaid review.
7. Total Inpatient Days by Service and Location, Medicaid only	U-3b	U-1a,1b, 2, 8	DHEW-HMOs does not show rate, LOS and Age/Sex.
8. Total Inpatient Days by Service and Location, Medicare only	U-3a	--	Not required for State Medicaid review.
9. Summary of Ambulatory Visits & Hospitalization	U-4	--	Not essential to State in this form, data available in other review tables.
10. Physician and Physician Extender Services by Age/Sex for Medicaid	--	U-3a, 3b	Gives total and rate.
11. Physician and Physician Extender Services by Type of Provider	--	U-4	Provides greater understanding.
12. Frequency of Visits by Age & Sex for Full-Year Medicaid Members	--	U-5	Optional. Can point to groups of high and low utilizers.
13. Services by other Professionals Rx's, Diagnostic Procedures, Injections, Nursing Homes	--	U-7, 8	Gives number and rate.
14. Treatment and Procedures by Specialty Office Visit	--	U-9a, 9b	Gives rate per visit. Optional, but provides good understanding of provider practices.

Changes in eligibility status data affecting enrollment information must be regularly recorded to keep billing and payments accurate. The data will serve as a denominator for determining utilization rates.

In Table P-1, Column 1 shows the number of enrollees at the beginning of the month. Except for the very first month, this will be the same as the end of the month enrollment, Column 4, for the previous month. Column 2 shows the number of new enrollees during the month, and Column 3 shows the number disenrolled during the month. The end of the month enrollment, Column 4, is Column 1 plus Column 2 minus Column 3. Column 5 is determined by cumulating the figures in Column 4. The average end of the month enrollment serves as the denominator in calculating the utilization rates in further tables.

Since utilization rates within specific age categories and separate rates for males and females are called for, the cumulative person-months should be maintained for each gender and within age categories as in Table P-2.

Table P-1

Monthly and Year-End Enrollment and Cumulative Person-Months
For Medicaid Contract Population

Aid Category _____ Time Period _____

	(1)	(2)	(3)	(4)	(5)
Month	Beginning of Month Enrollment	New Enrollment	Dis-Enrollments	End of Month Enrollment	Cumulative Person-months
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					

Average End of Month Enrollment:
Frequency: Monthly, annual and quarterly summaries desirable

Table P-2

Number and Percentage of Person-Months by Age and Sex for Medicaid Contract Population

Aid Category _____ Time Period _____

Age Groups	Number of Person-Months		
	Total	Male	Female
Under 1			
1 - 4			
5 - 9			
10 - 14			
15 - 19			
20 - 24			
25 - 29			
30 - 34			
35 - 39			
40 - 44			
45 - 49			
50 - 54			
55 - 59			
60 - 64			
65 - 69			
70 - 74			
75 - 79			
80 - 84			
85 - 89			
90 and over			
Unknown			
Total			

Frequency: Annually

Table U-1a shows the number of days of hospitalization and the number of admissions for each sex by age category.

Table U-1b shows the rate of inpatient days per 1,000 enrollees and the rate of admissions per 1,000 enrollees on an age- and sex-specific basis. The rates are calculated by dividing the number of days or admissions by the average end-of-month enrollment in Table P-2 and multiplying by 1,000. This method will always result in annualized utilization rates. Newborn days should be counted in determining the number of hospital days only if they develop problems and are separately admitted by the hospital. Normally, the newborn nursery costs are included in the mother's statement.

Table U-1a

Number of Enrollee Inpatient Hospital Days,
Admissions and Average Length
of Stay by Age and Sex for Medicaid Contract Population

Aid Category _____ Time Period _____

Age Groups	Number of Days			Number of Admissions			Average Length of Stay		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Under 1									
1 - 4									
5 - 9									
10 - 14									
15 - 19									
70 - 74									
75 - 79									
80 - 84									
85 - 89									
90 & over									
Unknown									
Total									

Frequency: Annually

Table U-1b

Rate of Inpatient Hospital Days and Rate
of Admissions per 1,000 Enrollees by
Age and Sex for Medicaid Contract Population

Aid Category _____ Time Period _____

Age Groups	Rate of Inpatient Days/1,000			Rate of Admissions/1,000		
	Total	Male	Female	Total	Male	Female
Under 1						
1 - 4						
5 - 9						
10 - 14						
15 - 19						
20 - 24						
25 - 29						
30 - 34						
35 - 39						
40 - 44						
45 - 49						
50 - 54						
55 - 59						
60 - 64						
65 - 69						
70 - 74						
75 - 79						
80 - 84						
85 - 89						
90 and over						
Unknown						
All ages						

Frequency: Annually

Table U-2 records the number and rate of inpatient days and admissions by service. The rate of days per 1,000 enrollees and admissions per 1,000 enrollees is determined by dividing the number of days or admissions by the average end-of-month enrollment from Table P-1 and multiplying by 1,000. The average length of stay is calculated for each service by dividing the number of days by the corresponding number of admissions.

Table U-2

Number and Rate of Inpatient Hospital Days
and Admissions per 1,000 Enrollees and Average
Length of Stay by Service for Medicaid Contract Population

Aid Category _____ Time Period _____

Service	Number of Days	Number of Admissions	Average Length of Stay	Annual Rate of Days Per 1,000 Enrollees	Annual Rate of Admissions Per 1,000 Enrollees
Medicine					
Pediatrics					
Obstetrics					
Gynecology					
Surgery					
Neurology					
Urology					
Dermatology					
Psychiatry					
Otolaryn-gology					
Orthopedics					
Ophthalmology					
Other (specify)					
Total					

Frequency: Annually

An encounter is defined as a face-to-face contract between a patient and a health care provider and involves assessment of the patient's condition and/or the exercising of independent judgment as to the patient's care. Physician extenders provide independently-recorded services at the direction or under the supervision of a physician. Examples include, but are not limited to, physician associate, nurse practitioner, medex, nurse clinician, and nurse midwife. Optometrists', podiatrists', and dentists' services are to be shown separately in Table U-6, as are the services of therapists, social workers, or other provider.

Table U-3a shows the number and Table U-3b shows the rate of encounters in a given time period with physicians and physician extenders on an age-and-sex-specific basis.

The table should include all encounters regardless of where they occur: office, clinic, home or hospital.

Table U-3a

Number of Physician and Physician Extender Encounters by Age and Sex for Medicaid Contract Population

Aid Category _____ Time Period _____

Age Groups	Number of Encounters								
	Physician			Physician Extenders			Total		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Under 1									
1 - 4									
5 - 9									
10 - 14									
65 - 69									
70 - 74									
75 - 79									
80 - 84									
85 - 89									
90 & over									
Unknown									
Total									

Frequency: Annually

Table U-3b

Rate of Physician and Physician Extender
Encounters by Age and Sex for
Medicaid Contract Population

Aid Category _____ Time Period _____

Age Groups	Rate of Encounters								
	Physician			Physician Extenders			Total		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Under 1									
1 - 4									
5 - 9									
10 - 14									
15 - 19									
20 - 24									
25 - 29									
30 - 34									
35 - 39									
40 - 44									
45 - 49									
50 - 54									
55 - 59									
60 - 64									
65 - 69									
70 - 74									
75 - 79									
80 - 84									
85 - 89									
90 and over									
Unknown									
Total									

Frequency: Annually

Table U-4 shows the number, percentage, and rate per enrollee of physician and physician extender encounters by medical specialty or type of physician extender.

Table U-4

Number and Percentage of Physician and Physician Extender Encounters and Rate per Enrollee by Specialty for Medicaid Contract Population

Aid Category _____ Time Period _____

Physician Specialty	Physician Encounters		
	Number	Percentage	Rate
General Practitioner			
Pediatrician			
Obstetrician/Gynecologist			
Surgeon			
Neurologist			
Urologist			
Dermatologist			
Psychiatrist			
Otolaryngologist			
Orthopedist			
Opthalmologist			
Other (specify)			
Total			

Physician Extender	Number	Percentage	Rate
Physician Associate			
Nurse Clinician			
Nurse Midwife			
Other (specify)			
Total			

Frequency: Annually

Table U-5 is an optional table which shows, within age groups, the number and percentage of persons enrolled for the entire 12-month period having specified numbers of physician encounters.

It should be noted that the population data necessary for compilation of this table does not correspond to Tables P-1 and P-2 since it is solely for persons enrolled for 12 consecutive months. A special set of population statistics would have to be prepared for this purpose.

Table U-5

Number and Percentage of Enrollees by Physician Encounter, Frequency and Age for Medicaid Contract Population Enrolled for Entire Twelve Months

_____ Aid Category

_____ Time Period

Age Group	No Encounters		1-2 Encounters		3-5 Encounters		6-7 Encounters		8+ Encounters		All Encounters	
	Enrollees		Enrollees		Enrollees		Enrollees		Enrollees		Enrollees	
	#	%	#	%	#	%	#	%	#	%	#	%
Under 1												100
1 - 4												100
5 - 9												100
10 - 14												100
15 - 19												100
20 - 24												100
25 - 29												100
30 - 34												100
35 - 39												100
40 - 44												100
45 - 49												100
50 - 54												100
55 - 59												100
60 - 64												100
65 - 69												100
70 - 74												100
75 - 79												100
80 - 84												100
85 - 89												100
90 & over												100
Unknown												
Total												

Table U-6 shows the source and location of services provided for prepaid group practice programs.

Table U-6

Physician and Physician Extender Encounters by Location Per Enrollee
In _____ Health Plan

_____ Aid Category

_____ Time Period

Type of Provider	Number of Provider Encounters Per Person Per Year							
	All Places	Plan Ambulatory Health Center	Home	Plan Hospital		Non-Plan Hospital		Non-Plan Physician Office
				Inpatient	OPD & ER	Inpatient	OPD & ER	
All Providers.....								
Physician.....								
Physician Extender.....								
Other Health Care Personnel.....								

Frequency: Annually

Table U-7 shows the number and rate per enrollee of encounters with all providers except physicians and physician extenders. The rate is calculated by dividing the number of encounters with each type of provider by the cumulative person-months from Table P-1, and multiplying by 12.

Table U-7

Number and Rate of Encounters with Other Health Care Providers and Rate per Enrollee For Medicaid Contract Population

Aid Category _____ Time Period _____

Health Care Providers	Encounters	
	Number	Rate
Dentist		
Dental Hygienist		
Visiting Nurse		
Home Health Aide		
Optometrist		
Social Worker		
Podiatrist		
Physiotherapist		
Psychologist		
Occupational Therapist		
Speech Therapist		
Other (specify)		
Total		

Frequency: Annually

Table U-8 shows the number and rate per enrollee of services received. The rate for each service is calculated by dividing the total number of services by the cumulative person-months from Table P-1.

Laboratory tests should be counted as definitive procedures. An exception would be made, however, for multiple tests, such as SMA-12's, CBCs, or urinalysis. For such multiple tests, each series should be counted as one test (e.g. an SMA-12 series would be counted as one, not twelve, tests).

X-ray examinations should also be counted as definitive procedures. Multiple views of the same organ system, however, would be counted as one procedure even if multiple plates were used. Similarly, separate views of a person's right ankle, heel and toes would be counted as one procedure, even though three or more plates were made.

Table U-8

Number and Rate of Other Services
Per Enrollee By Sex for Medicaid Contract Population

Aid Category _____ Time Period _____

Ancillary Service	Number of Services			Rate Per Enrollee		
	Total	Male	Female	Total	Male	Female
Outpatient Prescriptions						
Outpatient Medical X-rays						
Outpatient Lab Tests						
Immunizations						
Eyeglasses and Contacts						
Ambulance Trips						
Therapeutic Injection						
ECF (Days)						
CCF (Days)						
Hearing Aids						
Other Appliances						
Other (specify)						
Total						

Frequency: annually

Table U-9a records the number of physician encounters by medical specialty and location.

Table U-9b records the number and type of outpatient services by medical specialty. Rates are calculated by dividing the number of services by the number of physician health center encounters as shown in Table U-9a.

Table U-9a
Physician Encounters by Location

Aid Category _____ Time Period _____

Type of Provider	Location					
	All Places	Ambulatory Health Center	Home	Hospital Inpatient	OPD & ER	Other
General Practice						
Pediatrics						
Internal Medicine						
OB-GYN						
All Others						
Total						

Frequency: Quarterly and annually.

Table U-9b

Outpatient Laboratory and Radiologic Procedures
Prescriptions, Injections, and Immunizations Per
Doctor's Office Visit

Aid Category _____ Time Period _____

Medical Practice	Type of Outpatient Service per Doctor Office Visit									
	Laboratory		Radiologic		Prescription		Injection		Immunization	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Total										
General Practice										
Pediatrics										
Internal Medicine										
Obstetrician/ Gynecologist										
All Others										

Frequency: Quarterly and annually.

Two financial (F) tables are included here as examples of financial data that may be required.

Table F-1 is a sample format for new HMOs with no operating experience on which to report. Listed on a per capita basis are the projected costs by services by year. These projections can be compared to actual experience at a later time.

Table F-2, for HMOs already in operation, compares financial projections and experience on both an aggregate and per capita basis.

Table F-1

Financial Projections and Assumptions*

	Year 1	Year 2	Year 3
Plan Administration			
Salaries and Related Payroll			
Promotional Expenses			
Management Information Systems			
Stop-Loss Insurance			
Debt Service			
Other			
Subtotal			
Patient Care Expenses			
Hospital Inpatient Care			
Physician Services			
Office visits			
Surgical care			
Anesthesia			
Obstetrical care			
Inpatient medical care			
Outpatient Laboratory			
Outpatient X-ray			
Home Health Care			
Physical Therapy			
Prescription Drugs			
Dental			
Vision Care			
Psychiatric			
Emergency Room			
Other			
Subtotal			
Total Capitation			
Premium: Single			
Two-Party			
Family			

* Projected costs shown on a per capita basis

Table F-2

Financial Experience

	Total Expenses		Per Capita	
	Projected	Actual	Projected	Actual
Plan Administration				
Salaries and Related Payroll Promotional Expenses Management Information Systems Stop-Loss Insurance Debt Service Other				
Subtotal				
Patient Care Expenses				
Hospital Inpatient Care Physician Fees or Salaries and Related Payroll Other Health Center Salaries and Payroll Malpractice Insurance Facility, Supplies, and Related Expenses Subcontracted or Otherwise Identifiable Expenses Laboratory X-Ray Home Health Care Physical Therapy Prescription Drugs Dental Care Vision Care Psychiatric Other				
Subtotal				
Total Capitation				

Premium: Single Two-Party Family

* This format can be expanded to show current projections compared with past experience by year, quarter, or month as appropriate.

XIV. Adjustments to Experience

The foregoing has concerned the prospective determination of rates, as applicable to new contracts with HMOs.

Building a good conceptual framework for the rates provides a way of approaching the matter of renewal rates.

First, a general principle may be established that the Medicaid program will aim to pay its share of the HMO's total cost. Whether this is through a modification of the community rate, or through a budget-based process is not so important: the principle is the same.

Next, measures of cost related to utilization can be established. In the case of hospitalization, the connection is direct and obvious. In the case of clinic services, in a prepaid group practice HMO, there may be some difficulty in cost-finding to the extent necessary to conclusively identify Medicaid costs versus non-Medicaid costs. Utilization rates can be used as one possible basis for allocation.

The following will discuss an example of this, drawn from the actual experience of a major HMO.

It was noted that hospital utilization varied significantly between Medicaid enrollees and non-Medicaid enrollees.

- the Medicaid enrollees used 234 bed-days per 1,000 enrollees per year;

- the non-Medicaid enrollees used 286 bed-days per 1,000 enrollees per year.

These results were about what could have been expected, based on the application of external standards. The Medicaid population enrolled was younger on the average, and therefore could be expected to use less hospitalization. If the Medicaid hospital utilization rates were applied to the age and sex of the non-Medicaid enrollment, the resultant utilization would be 337 bed-days per 1,000 enrollees per year.

It may have been similarly expected, through the application of external standards, that the Medicaid population would use somewhat fewer medical services. Instead, they used more:

- the Medicaid enrollees used 4.03 medical services per year, on the average;

- the non-Medicaid enrollees used 3.42.

Table XIV-A, following, shows this utilization, broken down by type of service. It is immediately apparent that a good part of the higher utilization for Medicaid enrollees represents their use of non-physician encounters.

Table XIV-A

Utilization by Type of Service
Medicaid vs. Non-Medicaid and Total

Type of Services	Medicaid	Non-Medicaid	Total
Physician only	1.89	2.14	2.13
Nurse only	1.46	.98	1.00
Multiple*	.32	.20	.20
Other	.36	.10	.11
	4.03	3.42	3.44

*Physician and nurse involvement.

The relative pattern of utilization can be further examined, on an age- and sex-specific basis, in Tables XIV-B through F,** on the following pages. These indicate a striking pattern: markedly higher RN and "other" encounters for Medicaid females in childbearing years.

(Note that in the following tables a distinction is made between "Medicaid" and "Total" enrollment. This reflects the immediate availability of data in the case used as an example. It would generally be preferred to contrast "Medicaid" and "non-Medicaid enrollments.)

** Data in Tables XIV-B through F are for a different time period than Table XIV-A.

Table XIV-B
Comparison of Utilization Rates for
Total Encounters
Medicaid Versus Total Membership

Age	Male		Female	
	Medicaid	Total	Medicaid	Total
< 1	12.18	9.36	9.05	7.87
1 - 4	3.41	4.22	3.48	4.16
5 - 9	2.51	2.73	1.87	2.42
10 - 14	1.89	2.23	2.41	2.11
15 - 19	1.38	1.69	4.53	2.55
20 - 24	2.43	2.16	7.07	3.89
25 - 34	2.68	2.43	5.96	4.35
35 - 44	2.83	2.91	6.60	3.63
45 - 54	2.86	3.40	5.12	3.81
55 - 64	4.00	4.31	4.45	4.92
65+	3.50	3.15	8.20	6.86
All Ages	2.57	2.82	4.25	3.80

Both sexes combined:
Medicaid 3.58
Total 3.35

Table XIV-C
Comparison of Utilization Rates for
Physician Encounters
Medicaid Versus Total Membership

Age	Male		Female	
	Medicaid	Total	Medicaid	Total
< 1	7.45	4.96	5.11	4.23
1 - 4	1.84	2.03	1.81	2.01
5 - 9	1.51	1.44	1.04	1.19
10 - 14	1.13	1.22	1.12	1.05
15 - 19	.70	.89	1.74	1.25
20 - 24	1.43	1.21	2.31	2.41
25 - 34	1.50	1.40	2.46	2.77
35 - 44	1.78	1.81	2.68	2.30
45 - 54	1.57	2.16	2.68	2.45
55 - 64	2.71	2.79	2.91	3.02
65+	1.83	2.07	3.27	4.33
All Ages	1.48	1.61	1.87	2.29

Both sexes combined:
Medicaid 1.71
Total 1.98

Table XIV-D
Comparison of Utlization Rates
for RN Encounters
Medicaid Versus Total Membership

Age	Male		Female	
	Medicaid	Total	Medicaid	Total
< 1	3.36	2.35	2.74	2.32
1 - 4	1.15	1.30	1.18	1.34
5 - 9	.72	.94	.60	.84
10 - 14	.52	.78	.96	.67
15 - 19	.49	.60	2.07	.77
20 - 24	.71	.70	3.31	1.13
25 - 34	.77	.77	2.43	1.14
35 - 44	.83	.78	2.36	.94
45 - 54	.86	.97	1.78	1.06
55 - 64	.86	1.30	.82	1.57
65+	1.50	.61	4.20	1.84
All Ages	.78	.87	1.66	1.08

Both sexes combined:
Medicaid 1.31
Total .99

Table XIV-E
Comparison of Utilization Rates
For Multiple Encounters
Medicaid Versus Total Membership

Age	Male		Female	
	Medicaid	Total	Medicaid	Total
< 1	1.18	2.05	1.21	1.32
1 - 4	.35	.86	.44	.80
5 - 9	.21	.32	.17	.38
10 - 14	.18	.21	.23	.27
15 - 19	.19	.19	.53	.27
20 - 24	.29	.24	1.01	.27
25 - 34	.18	.20	.61	.31
35 - 44	.11	.17	.48	.22
45 - 54	.29	.22	.46	.21
55 - 64	.29	.19	.36	.26
65+	-	.24	.53	.41
All Ages	.24	.29	.45	.32

Both sexes combined:
Medicaid .36
Total .31

Table XIV-F

Comparison of Utilization Rates

for Other Encounters

Medicaid Versus Total Membership

Age	Male		Female	
	Medicaid	Total	Medicaid	Total
1	.18	.02	-	.01
1 - 4	.07	.03	.05	.02
5 - 9	.07	.02	.06	.12
10 - 14	.06	-	.10	.27
15 - 19	-	.02	.19	.08
20 - 24	-	.07	.44	.12
25 - 34	.23	.14	.46	.17
35 - 44	.11	.06	1.07	.09
45 - 54	.14	.04	.20	.07
55 - 64	.14	.24	.36	.29
65+	.17	-	.20	-
All ages	.07	.05	.27	.11

Both sexes combined:

Medicaid	.19
Total	.08

It may be concluded that Medicaid utilization was generally at rates less than the rates which applied to the total membership. Medicaid enrollees used fewer physician services in most age-sex categories (Medicaid enrollees under age one were seen more frequently.) But some Medicaid enrollees -- females in childbearing years -- had significantly more RN and "other" encounters.

These statistics must be interpreted: they do not automatically justify a higher rate. Do the higher utilization rates reflect special needs? What are they? Is there a program in the HMO for meeting them? Is the State willing to pay for it? How much?

This illustrates, in a tangible way, the value of specific data. Were it not for the specificity in the above data, it would have been easy to conclude that the Medicaid people used more services overall, were sicker, and accounted for a more-than-proportional share of costs. As it stands, it appears that certain Medicaid enrollees required a particular set of specialized services at a higher rate. Rate discussions can usefully focus on this fact.

XV. Administrative Steps and Procedures

There is a series of logical steps that must be sequentially pursued in the initiation and completion of risk contracts. The major steps are:

1. State: development of specification materials to be sent to prospective contractors;

2. HMO: development and submission of proposal;

3. State: review of proposal;

4. HMO and State: negotiation of final contract.

State development of specifications is discussed below. The other steps are self-explanatory and have already been treated in some detail.

Each State should prepare a statement concerning its overall goals regarding benefits, categories to be covered, stop-loss or reinsurance, determination of maximum per capita payments, proposal requirements, regular reports, enrollment procedures, grievance procedures, and sharing of surplus. These goals should also be prepared in the form of a sample contract.

The process would be best served if the State would submit its determination of the maximum allowable cost for each category with a brief explanation of these costs for the various benefits in terms of utilization and unit costs. This will not jeopardize the State's ability to attain its major goal, which is to stabilize costs, or its secondary goal of reducing costs. It will, however, succeed in establishing a factual basis for reaching contractual agreement. The disclosure of the maximum allowable cost is offset by contractual terms regarding proposal format, data reports and the sharing of surplus. The State remains in the dominant position of the purchaser of services. It must clearly

specify the nature and detail of all proposals and it must review them to verify the validity of each item. It must carefully review a contractor's performance in order to renew a contract at a rate which continues to meet the contractor's needs while at the same time providing the State with savings based upon the contractor's experience.

It is incumbent upon the State to specify what it wants and how it wants it. Table XV-A, which follows, is a sample of a reporting format for capitation rate analysis. Other formats should be designed to meet the other data needs of the State. It is desirable to be as concise and pertinent as possible. The HMO must then prepare and submit. The State can review the proposal in a variety of ways as has been previously expressed. Under no circumstances should the State attempt to establish the HMO's budget. The State, rather, reviews for validity. The burden of presentation is the HMO's.

The contract itself is the tool for balancing the goals of each party. The State has a necessary review function within the contract in order to make it work. If verification is performed, the terms of the contract can be applied. Bad service should not be renewed. Savings in one year are to be shared in some manner, and point to the possibility of further reductions and savings.

Again, the key is the contract and compliance with its terms. Thorough review can justify the State's position regarding the payment to each contractor.

Table XV-A

Data Necessary for Capitation Rate Analysis

(Sample Format)

Name of HMO: _____			Year: _____
Benefit	Estimated Utilization Rate Per _____ *	Estimated Cost Per Service	Capitation Rate
Clinic Services:			
Physician visits			
Surgery			
Immunizations			
Medical Supplies			
Health Education			
Home Health Visits			
Referral Physician			
Laboratory Tests			
Radiology Services			
Mental Health Care			
Inpatient days			
Outpatient days			
Drug and Alcohol			
Preventive Dental			
Preventive Eye Exams			
Emergency Visits			
Prescription Drugs			
Hospital Outpatient			
Extended Care			
Other Practitioners			
Dental Services			
Physical Theraphy			
Eyeglasses			
Prosthetics			
Hospitalization			
Other (List)			
Total			

* Specify rate per 1,000, per enrollee, per visit, per service, etc.

As part of a proposal, an HMO could thus indentify its key cost and utilization assumptions, which could then be reviewed by the State for reasonableness and validity. Note that the format on the preceding page cannot be universally applicable to all HMOs -- nevertheless it illustrates the ideas expressed in this manual:

1. the basis for the rates should be explicit;

2. this should be subject to review and analysis by the State in the process of evaluating reasonableness and validity.

XVI. Summary and Conclusions

HMOs have shown substantial progress in holding health care costs in check while assuring good service to their members. At least that is true of many prototype HMOs: the Kaiser Foundation Health Plan, Health Insurance Plan of Greater New York, Group Health Cooperative of Puget Sound, Group Health Association of Washington, D.C., and others. But some early attempt at HMO capitation contracting have been characterized by a belief that the economic accomplishments of these established organizations could be easily replicated by new organizations.

In order to successfully deal with HMOs, it is important to understand their main operating characteristics: what they are, how they operate, and how they adapt to economic incentives. Some noteworthy difficulties in Medicaid capitation contracting can be traced to inflated or false expectations of what HMOs can do. What was widely ignored was the extent of the organizational discipline and management effort necessary to achieve savings.

HMOs are significantly different from fee-for-service care, as discussed in Chapter II. Both meet essentially the same needs, but HMOs typically use less hospital care and more outpatient services. HMOs vary among themselves in the ways they are organized, but each HMO has an operating budget which can become a tool for understanding its operation.

The process of analyzing an HMO operation is assisted by understanding some basic actuarial concepts, as discussed in Chapter III. In an evaluation of an HMO's rates, the main steps are:

1. standardizing population and other factors;

2. establishing service utilization standards;

3. establishing costs.

Analysis of rates are necessary for HMO contracting in order to meet the requisites of public accountability. This is discussed in Chapter IV. It is possible for HMO management to be abusive -- and this is widely realized. It makes sense to be wary and careful in dealing with an organization that receives a fixed fee for a complex service. What will assure its proper performance? Will it skimp? Accordingly, the State officials involved in this process have to be aware of the problem -- assuring themselves that they will be dealing with organizations that are prepared to perform, to serve enrollees--and not be solely concerned with cost-cutting. To a large extent, the problem of

selecting an HMO with which to contract has been eliminated by law. The HMO Act Amendments of 1976 require that, with certain exceptions, Medicaid contracts on a risk basis can be entered into only with Federally-qualified HMOs, as discussed in Chapter V.

Beyond this requirement, the Federal regulations issued on May 9, 1975, contain a number of rules and requirements to guide risk-basis capitation contracting. The first of these reiterates an earlier-stated rule -- that the amount paid to an HMO cannot be more than would have been payable for the same group of people had they been served on a fee-for-service basis.

A second requirement is that the rate paid to the HMO is reasonable. What is "reasonable" is left to the State, but it is clearly expected that the rate will be critically examined, and that the full basis for the rates paid are to be justified and documented.

Determining reasonableness starts with choosing the method by which the rates are to be determined, as discussed in Chapter VI. The method is up to the State to determine, but several broad approaches have evolved:

1. Basing reimbursement on fee-for-service costs -

    a) the full amount of such costs, or;

    b) a percentage (such as 90 percent).

2. Basing reimbursement on community rates of the HMO -

    a) the same amount per capita as is charged to the general population (with modifications to recognize differences in benefits provided), or;

    b) a modified amount, recognizing different characteristics and prospective utilization of the Medicaid and non-Medicaid populations.

3. Basing rates on a prospective budget -

    a) of the particular HMO, or;

    b) of a generalized model, fairly representative of the type of HMO concerned.

There are various factors which influence the choice of one method or another. If the State wants primarily to encourage the development of new HMOs, then a way to assure maximum reimbursement would be through payment of the fee-for-service maximum. On the other hand, payment of a percentage of the fee-for-service amount would be a clear demonstration of savings achieved through capitation contracting with HMOs. For HMOs which have a stable operation and substantial private-market enrollment, a variation on the community rate is likely to be appropriate: the validity of the base rate is demonstrated by its private-market acceptance. For many other HMOs, budget-based capitations will be appropriate.

Once a method is determined, there are several steps which should usually be taken in connection with capitation rate-setting. First, the maximum amount payable should be determined according to methods which enable a fair comparison between HMO and fee-for-service costs. Next, reasonableness and justification of the HMO's proposed rate have to be assessed, and the rate should be negotiated between the HMO and the State. A

distinction should be observed between "push and shove" negotiation -- primarily an exercise of power -- and fact-based resolution of issues. Later, experience under the HMO contract should be monitored, and renewal rates set in light of realistic analysis of experience.

Examples of specific techniques of analysis are presented in Chapters VIII, IX, and X. These include the analytical steps in determining the fee-for-service maximum; the process of converting a community rate to a Medicaid rate (or assessing the reasonableness of differences between a community rate and a Medicaid rate); and the process of validating the assumptions underlying a budget.

As noted in Chapter XI, part of the analysis of rates should involve consideration of objective variables that exist among HMOs. Even Federally-qualified HMOs differ in their service features and attributes, and it is legitimate to recognize desirable features with differential rates, objectively determined.

Rate negotiations are discussed in Chapter XII, in terms of the interests of the respective parties, the HMO and the State Medicaid agency. The State tends to want to stabilize or lower costs, while the HMO generally seeks to achieve greater organizational strength through its Medicaid contract -- or, at least not to compromise its existing strengths. HMOs cannot view Medicaid contracting as an unalloyed blessing: there can be problems of meeting needs for additional benefits, marketing staff, and adequate facilities to handle increased enrollment; and in finding ways to enroll beneficiaries without undue expense.

The range of issues that can be negotiated is wide. These can include not only the rate itself, but also administrative arrangements, enrollment rules, the timing of payments to the HMO, risk sharing or reinsurance, and reporting requirements. Each can have an economic value, affecting the attractiveness of the contracting arrangement to the State and to the HMO.

Other issues, such as the prospect of "adverse selection" by the HMO, may be the subject of discussion and/or contention. These represent issues to be dealt with realistically, on the basis of facts and not subjective assertions.

It is important, in keeping a fact-based relationship, for an HMO to give regular statistical reports to the State. The State can thus determine that beneficiaries are getting proper and consistent levels of service; and the State agency can be alert to any trends that may affect the adequacy or appropriateness of the rates. Examples of such reporting tables are given in Cahpter XIII, with a discussion of their use.

Statistics on HMO operation can lead to interpretation of how rates may be modified. An example of how this can be done is given in Chapter XIV, using actual situations. As shown in the example, the gross figures on utilization on first examination appear to indicate a somewhat higher overall rate of use for Medicaid enrollees. Further examination of the specifics, however, shows that this extra utilization is concentrated in certain specialized services for some enrollees. It is suggested that, by having access to good data, negotiations can productively be concentrated on the real facts as revealed by the analysis -- not on general assertions.

Finally, in Chapter XV, some comments are offered about the administrative process of managing HMO capitation contracts. The point made is that the State invites HMOs to submit proposals -- like any buyer of any service -- and then maintains an orderly process of review of these proposals and monitoring of performance.

A point to be emphasized is that HMO capitation contracting for Medicaid eligibles should pay dividends for the State in terms of lower long-term costs and more rational service to benefiaciaries. While this requires special efforts, they are generally straightforward and manageable.

Finally, it may be stressed that HMOs are important as examples and leaders in the development of rational, economical health care delivery patterns. HMOs are unique in being organized to work for continuity of care; rational use of expensive facilities and services; guaranteed access to needed services; coordination of social and educational services with medical services; and assuring, meanwhile, that the HMO member is satisfied and remains enrolled.

By meeting their high aspirations, HMOs can provide not only good service and justified costs for their enrolled members, but also a needed example. Attention to the organization and management of medical care is, after all, the long-term solution to the cost problem. And this is what HMOs provide.

In short, HMOs are organized systems for health care. While their characteristics vary, all HMOs have strong incentives to control costs while providing good services.

While this may provide sufficient reason for contracting with HMOs, the fact is that HMOs also have a role as trailblazers and standard-setters. They seek to demonstrate that care and attention in the management of health care provides the best hope for long-term solution of the cost problem.

States can, through working contractually with HMOs, add the weight of their Medicaid programs to the further spread of proven methods for organizing health care. At the same time States can save money, since care through HMOs can often be less costly than fee-for-service care.

But in doing so, it is necessary for each State to be an informed and prudent buyer -- recognizing how to deal with a different sort of health care vendor or provider. This manual has described some approaches and techniques which contribute to that effort.

Appendix A

Sample Calculation of Fee-For-Service Maximum Amount

Table A

Average Cost Per Eligible Per Month

Geographic Area: Sample County

Aid Category: AFDC

For Services Rendered 1-1-75 to 12-31-75

	(1) Total $	(2) Monthly Per Person Cost*
Inpatient hospital services	$ 5,154,977	$16.216
Outpatient hospital services	1,079,854	3.397
Other laboratory and X-ray services	10,748	.034
Physician services	3,156,002	9.928
Other practitioners	167,669	.527
Health insurance	68,889	.217
Visiting nurse service	1,728	.005
Transportation	12,777	.040
Medical supplies	93,594	.294
Other services	195,782	.616
Subtotal	$ 9,942,020	$31.274
Dental services	1,051,544	3.308
Eyeglasses	14,229	.045
Prescribed drugs	714,931	2.249
Prosthetic devices	29,921	.094
Subtotal	$ 1,810,625	$ 5.696
TOTAL	$11,752,645	$36.970

*Total dollars divided by total person-months of exposure for the period in question. See Table B for method of computing person-months of exposure.

Table B

Person-Months of Exposure

Geographic Area: Sample County

Aid Category: AFDC

For Period: 1-1-75 to 12-31-75

January	25,121
February	25,465
March	25,722
April	26,147
May	26,314
June	26,264
July	26,589
August	26,610
September	27,035
October	27,448
November	27,546
December	27,634
Total Person-Months	317,895
Average Number of Persons	26,491

Note: The person-months of exposure for a given time period is simply the sum of the number of Medicaid eligibles in each of the months in that time period.

Table C

Adjustment in Average Monthly Per Capita Cost
Reflecting Anticipated Changes in Medicaid Fee Schedule*

Georgaphic Area: Sample County

Aid Category: AFDC

For Services to be Rendered From: 1-1-77 to 12-31-77

	Past Monthly Per Person Cost**	Inflation Factor	Projected Monthly Per Person Cost
Inpatient hospital services	$ 16.216	1.280	$ 20.757
Outpatient hospital services	3.397	1.235	4.195
Other laboratory and X-ray services	.034	1.155	.039
Physician services	9.928	1.231	12.221
Other practitioners	.527	1.124	.592
Health insurance	.217	1.124	.244
Visiting nurse service	.005	1.124	.006
Transportation	.040	1.124	.045
Medical supplies	.294	1.124	.331
Other services	.616	1.124	.692
Subtotal	$ 31.274	1.251	$ 39.122
Dental services	3.308	1.116	3.692
Eyeglasses	.045	1.124	.051
Prescribed drugs	2.249	1.117	2.512
Prosthetic devices	.094	1.124	.106
Subtotal	$ 5.696	1.117	$ 6.361
TOTAL	$ 36.970	1.230	$ 45.483

* Subsequent to the time period used in Table A

** From Table A

Table D

Average Monthly Per Person Cost (Statewide)
Broken Down by Age and Sex Groupings
Aid Category: AFDC
Benefits: All
For Period 1-1-75 to 12-31-75

I. Dollars Per Person Per Month

Age	Male	Female
0 - 4	$ 16.64	$15.22
5 - 9	11.86	26.60
10 - 14	11.98	27.68
15 - 19	11.38	25.37
20 - 24	13.41	23.21
25 - 34	18.41	25.71
35 - 44	32.59	34.92
45 - 54	61.93	50.32
55 - 64	101.15	82.22

II. Ratios*

Age		
0 - 4	1.3890	1.2703
5 - 9	.9896	2.2205
10 - 14	1.0000	2.3104
15 - 19	.9495	2.1177
20 - 24	1.1195	1.9373
25 - 34	1.5369	2.1464
35 - 44	2.7203	2.9150
45 - 54	5.1692	4.2007
55 - 64	8.4430	6.8627

*Male aged 10 - 14 equal to one; all other age/sex groups expressed as ratios to it.

Table E

Age-Sex Distribution of Non-HMO Medicaid Population

Geographic Area: Sample County

Aid Category: AFDC

As of 12-31-75

I. Actual Numbers of Persons

Age	Male	Female	Total
0 - 4	19,445	15,796	35,241
5 - 9	16,872	15,796	32,668
10 - 14	15,513	13,624	29,137
15 - 19	9,651	12,637	22,288
20 - 24	2,860	11,254	14,114
25 - 34	3,717	18,362	22,079
35 - 44	1,930	7,700	9,630
45 - 54	858	2,567	3,425
55 - 64	643	987	1,630
Total	71,489	98,723	170,212

II. Proportion

Age			
0 - 4	.114	.093	.207
5 - 9	.099	.093	.192
10 - 14	.091	.080	.171
15 - 19	.057	.074	.131
20 - 24	.017	.066	.083
25 - 34	.022	.108	.130
35 - 44	.011	.045	.056
45 - 54	.005	.015	.020
55 - 64	.004	.006	.010
	.420	.580	1.000

Table F

Age-Sex Distribution of Medicaid Population
Enrolled in a Specific HMO

Name of HMO: Sample HMO

Location of HMO: Sample County

Aid Category: AFDC

As of 12-31-75

I. Actual Numbers of Persons

Age	Male	Female	Total
0 - 4	247	247	494
5 - 9	287	268	555
10 - 14	289	234	523
15 - 19	123	201	324
20 - 24	24	149	173
25 - 34	25	274	299
35 - 44	17	136	153
45 - 54	9	54	63
55 - 64	7	21	28
Total	1,028	1,584	2,612

II. Proportion

Age			
0 - 4	.095	.095	.190
5 - 9	.110	.102	.212
10 - 14	.111	.089	.200
15 - 19	.047	.077	.124
20 - 24	.009	.057	.066
25 - 34	.009	.105	.114
35 - 44	.007	.052	.059
45 - 54	.003	.021	.024
55 - 64	.003	.008	.011
	.394	.606	1.000

Table G

Determination of Age-Sex Adjustment Factor

To Be Used in Determining Upper Limit for HMO Capitation Payment

Aid Category: AFDC

Payment Class - Benefits All

Name of HMO: Sample HMO

	(1)	(2)	(3)	(4)	(5)
		Proportion of Persons		Total Age-Sex Adjusted Ratios	
Age	Relative Cost Ratio*	Medicaid Eligibles Enrolled in HMO	All Medicaid Eligibles Not Enrolled in HMOs	HMO (1) x (2)	FFS (1) x (3)
Males:					
0 - 4	1.3890	.095	.114	.1320	.1583
5 - 9	.9896	.110	.099	.1089	.0980
10 - 14	1.0000	.111	.091	.1110	.0910
15 - 19	.9495	.047	.057	.0446	.0541
20 - 24	1.1195	.009	.017	.0101	.0190
25 - 34	1.5369	.009	.022	.0138	.0338
35 - 44	2.7203	.007	.011	.0190	.0299
45 - 54	5.1692	.003	.005	.0155	.0258
55 - 64	8.4430	.003	.004	.0253	.0338
Females:					
0 - 4	1.2703	.095	.093	.1207	.1181
5 - 9	2.2205	.102	.093	.2265	.2065
10 - 14	2.3104	.089	.080	.2056	.1848
15 - 19	2.1177	.077	.074	.1631	.1567
20 - 24	1.9373	.057	.066	.1104	.1279
25 - 34	2.1464	.105	.108	.2254	.2318
35 - 44	2.9150	.052	.045	.1516	.1312
45 - 54	4.2007	.021	.015	.0882	.0630
55 - 64	6.8627	.008	.006	.0549	.0412
		1.000	1.000	Σ = 1.8266	Σ = 1.8049

$$\text{Age/Sex Adjustment Factor} = \frac{\Sigma \text{ HMO}}{\Sigma \text{ FFS}} = \frac{1.8266}{1.8049} = 1.012$$

*These ratios are from the bottom half of Table D.

GLOSSARY

Actuary: A professional trained in dealing with matters of risk and the prediction of future probabilities or contingencies through mathematical and financial computation and analysis.

Aid Category: Medicaid categories of eligibility.

Assumptions: In terms of an actuarial computation, a set of facts judged likely to reflect future experience. Some assumptions may reflect past experience in a given situation, as modified to take account of likely future developments; others may be derived from experience in comparable situations, as modified to take account of idffering circumstances.

Benefit contract:
Subscription contract: A legal contract with a subscriber (enrollee), or with a representative of enrollees specifying the services to be provided in consideration of regular premium or subscription charges.

Capitation: The process of making a measurement "per capita" or "by the head."

Capitation rate;
Subscription charge: A premium, as an insurance premium, paid by or on behalf of subscribers (enrollees) for medical and related services, and determined in advance on a per capita basis, without reference to the use or anticipated use of the covered services by any one individual.

Community rating
Experience rating: Community rating, used by prepayment plans and prepaid group practice plans, refers to the development of a single rate to be charged all subscribers in a community or area for specified prepaid services, regardless of the use of services by any particular individual or group. Experience rating, as used by insurance companies and prepayment plans, (but rarely by prepaid group practice plans) refers to the development of rates unique to each contract holder (group of persons) based on the extent of that group's use of services.

Coverage Option: An option, available through some, but not all State Medicaid programs, for enrollment in a prepaid group practice program, or comprehensive health care delivery system in substitution for fee-for-service health care coverage.

Credibility factor: An expression of the degree of confidence placed in a given determination, statistic, or set of statistics, as used as a measure of likely future experience in a computation of a premium or subscription rate.

Eligible: A person who qualifies for benefits under the requirements of one or more of the Medicaid aid categories.

Fee-For-Service: The system of payment by which every service performed is paid for as an individual item (usually after the service is performed). This is the opposite of a prepaid capitation system in which a premium paid prospectively covers all services included in the benefit package for the relevant period.

Fee-For-Service Maximum Upper Limit: Federal requirements prohibit a State from paying more under a capitated system than it would have paid under like circumstances for a like population had the eligibles been covered by fee-for-service payments. The average amount per person that would have been paid under a fee-for-service system for comparable benefits is the upper limit for capitated payments to HMOs.

Incentive plan: As used in the compensation of HMOs, it is a system of economic rewards (and potential penalties) which reflect those goals which can be expressed in monetary terms, such as limiting hospital use and maintaining economical health center operations.

Indemnity contract; Service contract: An indemnity contract is one in which a subscriber or insured individual is guaranteed indemnification for his covered "losses" or expenses, within specified limits; whereas a service contract is one in which a prepayment plan subscriber is guaranteed specified services, without his paying for them directly, and regardless of the actual cost of these services.

Out-of-area benefits: As used in HMOs, a benefit (generally an indemnity contract type of payment) for health service used outside of the program's operating area.

Person months: The sum of the number of eligibles enrolled each month of the relevant period. This total is used in assessing cost per person when divided into total cost for the same period.

Prepaid group practice plan: An organization contracting for the services of one or more specified multispecialty groups of physicians and other health personnel, providing comprehensive health services on a continuing basis for enrolled persons. It differs from a prepayment plan and an insurance company in that it is directly associated or involved with providers of service, and guarantees the provision of needed covered services to enrolled persons.

Reinsurance: A secondary form of insurance, which insures an organization (such as a prepaid group practice plan or a health center functioning as such) against excess costs, as measured by reference to specified events or contingencies. Reinsurance may, for example, apply to offset the costs of an organization in the event that hospital bed days used are more than anticipated, in specific cases or in the aggregate.

Registered population; enrolled population: A registered population includes those eligible persons who have registered for services at a health center, but who may use other sources of care on a prepaid basis (as through, for example, Medicaid); an enrolled population includes only those who have agreed that all prepaid services will be sought through a specified source of services, such as a health center.

Selection: In health insurance or underwriting, the selection of insured persons or groups. "Adverse selection" refers to the enrollment of persons with unusually high medical needs and/or demands; "favorable selection" is the opposite.

Service category: Individual benefits and services or groups of services or benefits provided or contracted for by the State.

Standardization: The process of comparison holding one or more variables constant. For example, if two or more HMOs are to be compared in terms of hospital use, age and sex characteristics can be standardized.

Subscriber: An enrolled or insured person, generally the head of a household named in a contract who is insured or entitled to benefits for himself and, as applicable, his family members.

Reserves: Assets held for the purpose of meeting risk.

Risk: For a prepaid group practice program or a health center operating as such, the contingency that income from a capitation rate may not be sufficient, in a period of time, to pay or provide for all expenses. Actuaries seek to moderate risk through the process of making accurate predictions of health care needs and costs.

Risk Management: For those risks which must necessarily be taken, the process of measuring or quantifying these, and providing for a plan or procedure for meeting them through contractual arrangements for the sharing or absorption of risk, or through reserves.

Third party: As used in health insurance or prepayment, an insurance or prepayment organization, a "third party" to the primary transaction between a patient and a physician.